copy 4

MAY 15 1930

The Dental Digest

May 1930

PROPERTY OF
DENTAL LIBRARY
UNIVERSITY OF MICHIGAN
DON'T MUTILATE OR
REMOVE

Editor-
GEORGE WOOD CLAPP, D. D. S.
Publisher-THE DENTISTS' SUPPLY COMPANY *of New York*

THE DENTAL DIGEST

VOLUME XXXVI MAY, 1930 NUMBER 5

CONTENTS

CONTRIBUTED ARTICLES PAGE

Taking the "Bane" Out of Denture Construction. JOHN BERNARD BRUNS, D.D.S. 283

The Estimation of Cardiac Risk for General Dental Anesthesia. MILTON J. RAISBECK, M.D. 292

Restoring Pleasing Expression With Artificial Dentures. JAMES P. RUYL, D.D.S. 302

Interception of Malocclusion. R. C. WILLETT, D.D.S. 304

Psychological Research With the Elimination of Dental Fear as Its Object. A. PORTER S. SWEET, D.D.S. 315

Columbia "Service Clinic" Officially Condemned 318

FEATURES

DIGESTS 319

DENTAL ECONOMICS 324

PRACTICAL HINTS 326

CORRESPONDENCE 329

DENTAL SECRETARIES AND ASSISTANTS 332

BOOKS RECEIVED 339

EXTRACTIONS 340

STATEMENT OF OWNERSHIP, ETC. 341

FUTURE EVENTS 342

THE DENTAL DIGEST

GEORGE WOOD CLAPP, D.D.S., EDITOR

ALLAN M. JOHNSON, A.B., D.M.D., ASSOCIATE EDITOR

Published monthly, by THE DENTISTS' SUPPLY COMPANY OF NEW YORK, 220 West 42nd Street, New York, U. S. A., to whom all communications relative to subscriptions, advertising, etc., should be addressed.

Subscription price, including postage, $1.00 per year to all parts of the United States, Philippines, Guam, Cuba, Porto Rico, Mexico, and Hawaiian Islands. To Canada, $1.40. Great Britain and Continent, $2.75. Australia, $3.25. To all other Countries, $1.75.

Articles intended for publication and correspondence regarding the same should be addressed EDITOR DENTAL DIGEST, Candler Bldg., Times Square, 220 West 42nd Street, New York, N. Y.

The editor and publishers are not responsible for the views of authors expressed in these pages.

Entered as Second Class Matter, at the Post-office at New York City, N. Y., January 29, 1909, under the Act of Congress, March 3, 1879.

EDITOR'S CORNER

Life Opens Wider for Two Great Dentists

EDWARD C. KIRK, D.D.S., Sc.D., LL.D., seventy-three years young, has withdrawn from the activities which have recently occupied much of his time to engage exclusively in scientific dental research. Because Dr. Kirk's career has long been a badge of honor to the dental profession and should serve as an inspiration to every man who chooses dentistry as a vocation, this announcement is of much more than passing interest.

Scientific research needs the rose-tinted vision, the pushing enthusiasm and the untiring resiliency of young men, but it needs also the plodding persistence and tempered valuation and statement which characterize men rendered mature by long experience. The older men may seem content to analyze the crumbs of fact which fall from the young man's table, but from such crumbs they sometimes produce pearls.

The story of Dr. Kirk's career is too much a part of dental history and of public record to need repeating here, save as it provides lessons which we all might well learn. He was graduated from the Pennsylvania College of Dental Surgery in 1878, and from the time of his graduation he was continuously connected with the faculty of the Dental Department of the University of Pennsylvania for more than forty years. In 1896 he followed Dr. James Truman as dean and occupied that position with honor to the school, his profession and himself until 1917.

His contributions to dental literature have been numerous and authoritative. Perhaps his literary influence has been greatest through the columns of the *Dental Cosmos*, of which he became Editor in 1891. The fruit of his editorial labors probably cannot be separated from the story of that dental progress in which they played a part, but there can be no question that his influence has extended to the uttermost parts of the earth, and that thousands of dentists have followed better ideals and rendered better service because Dr. Kirk took a part in their lives.

It was entirely fitting that in 1917 Secretary of War Baker should summon Dr. Kirk to mobilize the resources of dentistry for the benefit of our soldiers in the World War. Largely because of the forces which he set in motion and continuously activated, the organization of the dental service for the A. E. F. was superior to that for any other army.

The dental profession has heaped honors upon Dr. Kirk. It must be no small pleasure to him to reflect that they have come in greatest numbers and gladdest

spontaneity from organizations the world over which are scientific in character rather than from those that are political, and that they measure, as merely political honors could not, the esteem in which his labors are held by men of his own type.

The limits of space forbid the mention of other interesting and important achievements of his life, but it is replete with lessons of which two may here be mentioned.

Dr. Kirk would be the first to disclaim for himself ability greater than that possessed by many young men now entering the dental profession. Be that as it may, his achievements have been made possible by unswerving and unceasing devotion to high ideals and to intelligent and constructive service. Every young man comes face to face at some time with the need to choose between the things that are constructive and permanent, which are to be attained only by self-denial and by more work after the day's work, and those tempting flowers of pleasure which bloom in the gardens of relaxation. Careers such as Dr. Kirk's are possible only to those who choose the path of that kind of effort that takes a better grip on life and find in it a lifelong joy.

This most recent decision of Dr. Kirk's should be an inspiration to men of middle age or more who permit themselves to diminish or lessen their labors for professional welfare because they think themselves too old to do this or that. He shows us practically that age is not a matter of years, but that it depends on tissue conditions, on habits of work and on mental outlook. He proves that no man is too old to do a thing so long as he can do it, and he is likely to show us that if he can do it in the light of long experience and much wisdom, he may make contributions to knowledge of which a younger man might be incapable. Many a man who has begun to think of himself as old and out of the picture will be cheered into new activity by Dr. Kirk's action.

The best wishes of the entire profession go with him. Those who are his personal friends will feel an especial intimacy of pleasure. Others, the world over, who have not the privilege of his personal friendship but who have benefited by what he has done will also be glad. May he continue to forget the years and be kept young by the knowledge that we await with interest whatever additions he may care to make to our store of professional knowledge!

L. Pierce Anthony, D.D.S., F.A.C.D.

With the withdrawal of Dr. Kirk to engage in research work Dr. Anthony becomes in title what he has probably long been in fact—Editor of the *Dental Cosmos*. It is a noble heritage and well deserved.

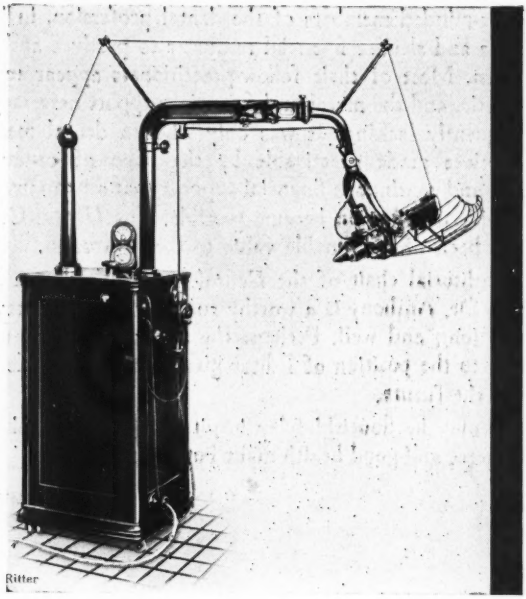
No one who recognizes that a group of unrelated men having common interests cannot be shaped into a profession without a literature that brings them together, formulates their ideals and directs their activities can fail to appreciate that such development as dentistry has already attained is, in no small degree, due to the magnificent way in which the *Dental Cosmos* has done these things.

Noble-minded members of the dental profession, in its early years, sacrificed their time and slender financial resources to produce and maintain a professional journalism. Most of their fellow-practitioners appear to have been but slightly sympathetic, and the moral and financial support necessary from the whole group was frequently lacking. It was only when a dental manufacturer, actuated by high motives made practicable by the hope of commercial benefit, supplied adequate and continuous financial support that a permanent professional literature with a wide distribution became possible. The *Dental Cosmos,* supported in this way, has been of inestimable value to the profession.

The editorial chair of the *Dental Cosmos* has been filled by great dentists. To them Dr. Anthony is a worthy successor. He has served the interest of good dentistry long and well. Perhaps the pleasure and incentive which his deserved accession to the position of Editor gives him may enable him to serve them even better in the future.

Long may he flourish! May inspiration light his mind, common sense guide his footsteps, and good health make both effective!

GEORGE WOOD CLAPP.



14,008

RITTER X-RAYS NOW IN USE BY LEADING PRACTITIONERS THROUGHOUT THE WORLD

THAT'S ENDORSEMENT!

RITTER DENTAL MFG. CO., INC.
ROCHESTER, N. Y.

RITTER

THE DENTAL DIGEST

VOLUME XXXVI MAY, 1930 NUMBER 5

Taking the "Bane" Out of Denture Construction

By JOHN BERNARD BRUNS, D.D.S., New York, N. Y.

During my senior year at college I recall one day having lunch with one of my prosthetic instructors and hearing him sigh that "plate work is the bane of a dentist's existence." Upon me as a student this remark left anything but an encouraging impression.

In the following experience I shall try to show how this "bane" has, to some extent, been removed from my own existence and I hope during the further development of the idea to remove some additional forehead wrinkles which, it must be admitted, have been caused by plate work.

Three years ago an old neighbor of mine, a woman of middle age, presented with twenty-seven teeth in place, but upon roentgenographic examination all of them were found to be in a chronic pyorrhetic condition. Scaling and other treatment were resorted to in an effort to restore a normal condition, but with little success. The patient was tactfully informed of the seriousness of the situation and the advisability of the removal of some of the more offending teeth. Such a thing seemed far from pleasant, from the patient's point of view, and no heed was paid to the advice of removal.

About a year later the patient telephoned for an appointment to have the teeth "examined and cleaned." During this elapsed year the condition had naturally progressed and the patient complained of feeling constantly tired and having a decided lack of ambition. Again the advisability of removal of the molars and bicuspids was stressed, but no heed was taken.

In December 1928 the patient was given an appointment for her annual "examination and cleaning." By this time the tiredness and lack of ambition were decidedly evident, She had, about six months previously, been treated for an infected foot which had not been prompt in responding to treatment. She complained also of what was described as a "rheumatic pain" in the right knee. Her physician had a blood test made and the analysis showed such a septic condition that the immediate removal of the twenty-seven teeth was ordered.

In view of the extreme irregularity of the teeth it occurred to me that when the time came for a denture it might be possible, to an extent at least, to imitate this irregularity in the permanent denture. Therefore, at this December 1928 visit, I noted the shade of the teeth, had the patient give me a squash bite, and then dismissed her to see her dental surgeon to have the teeth removed. I consulted by telephone with the surgeon, requesting that he preserve for me all teeth removed, especially the twelve anteriors.

All twenty-seven teeth were removed

on December 5, 1928, requiring a hospital visitation of three days. On December 13 the patient called to have me see the gums and to arrange for dentures, bringing with her the twelve extracted anteriors. She explained that she held an important position as a private secretary and had received a three weeks' leave of absence, during which time she hoped to get her dentures, since she felt that she could not possibly make a reappearance at business without teeth. The condition of the gums at this time precluded all possibility of any restoration, and the patient was given an appointment for a month later. In the meantime, the twelve extracted anterior teeth were set in place in the squash bite and articulated.

The following month impressions were taken and dentures made. It was not long before gum absorption made these dentures uncomfortable and despite repeated rebasings the teeth were good only for appearance. This condition prevailed until February of this year, when the patient was ready for a second set of dentures. A snap impression in compound was taken and baseplate trays made. Impressions were taken from these trays, models poured and articulated, and the bite taken in the usual way. It was at this point that the articulator with the twelve extracted anteriors (in their exact original positions) was brought into use.

A careful study of the patient showed the complexion rather sallow, hair dark, straight and slightly greying, face-form modified ovoid-tapering type, and shade of teeth, as previously noted, running from 16 to 21. All of these data, together with the articulated anteriors, were turned over to my laboratory with instructions to imitate, as far as practicable, the exact irregularities of the original teeth. Naturally, here was an opportunity for an unusual restoration and a chance to improve upon the appearance of the mouth prior to extraction. Obviously it would have been impractical to imitate exactly the position of the natural teeth at the time of their removal, inasmuch as the effects of the pyorrhetic condition over a period of years had so distorted and misplaced the teeth (especially the superior anteriors) that had their positions been copied faithfully in the completed denture a condition nothing short of grotesque would have been effected. Therefore a happy medium, so to speak, was struck and the teeth placed on the dentures in much the same position as they were before the radical changes caused by disease had set in. The patient now can truthfully be said to look better and more normal than with the exaggerated overbite that existed at the time of extraction.

Inasmuch as the patient had tired of her rubber dentures, condensite dentures were decided upon. Ovoid teeth with blended shades running from 16 to 21 were used. At the time of the try-in a protrusive bite was made which enabled the teeth, when finished, to be ground to balanced occlusion.

Here was a business woman whose position depended very largely upon her appearance. By effecting this very lifelike restoration she was returned to her rightful place in the business world without fear of any stigma which might be attached to "false" teeth. To say that she was delighted with the finished dentures is putting it mildly. Patients

are usually very appreciative of such efforts in their behalf, because they realize the value of appearance and denture comfort in their lives.

It has been my experience that when my laboratory is given this course of preparation and cooperation, the men have something to work on and are better able to give the desired results than to leave many of the details to guesswork. My present practice is to take shades and squash bites of all patients the life of whose teeth, in my opinion, is merely a matter of a few years, articulate these bites and note thereon the shades of teeth, so that when the time comes for a denture restoration we have something to follow in giving patients dentures resembling their own as nearly as conditions will permit, thereby getting away from the dread of "false" teeth. Tooth moulds and shades are made today in such harmonious forms and hues that any natural tooth can be closely imitated and its original position approximated. The rendering of such dental service will take away all of that old feeling that "plate work is the bane of a dentist's existence." As a matter of fact, there is a decided inspiration in such work and we get from such service satisfaction that far transcends the mere monetary remuneration.

For convenience of arrangement the illustrations for Dr. Bruns' article will be found on the following pages.

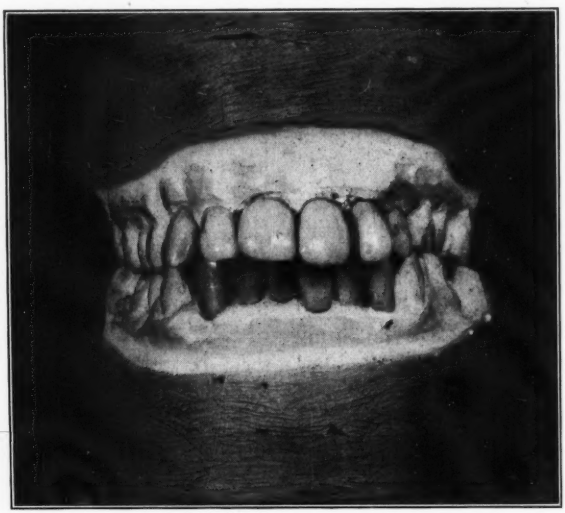


Fig. 1
Articulated models with natural teeth in position.

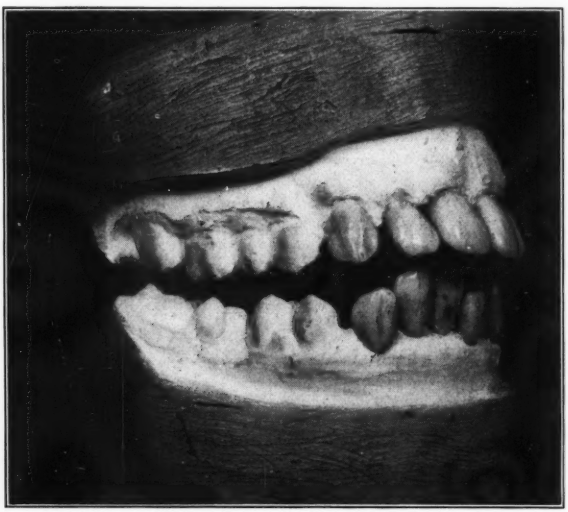


Fig. 2
Side view of articulated models with natural teeth in position.

Fig. 3
Front view of completed dentures.

Fig. 4
Front view of completed dentures showing more clearly the arrangement of the lower incisors.

Fig. 5
Side view of completed dentures.

Fig. 6
Front view of patient without dentures.

Fig. 7
Side view of patient without dentures.

Fig. 8
Front view of patient with dentures in place.

Fig. 9
Side view of patient with dentures in place.

Fig. 10
Side view of patient smiling.

Fig. 11
Front view of patient smiling.

Fig. 12
Front view of patient showing arrangement of lower anteriors.

5 East 53rd Street

The Estimation of Cardiac Risk for General Dental Anesthesia*

By MILTON J. RAISBECK, M.D., New York, N. Y.

(Revised from a stenographic report)

It is somewhat difficult for me to discuss this subject because I do not know how far you may be willing to go, how much time you may have available to investigate each individual patient before using a general anesthetic. As a general introductory remark I may say that I believe I have rarely seen a case to which a general anesthetic could not be given safely if the right one were selected, given in the right way. But that is far different from the problem you have to meet in your dental practice, where you must prevent a catastrophe in your office that you may foresee by simple means, and where you need a relatively quick routine to enable you to distinguish the serious risks and postpone anesthesia until you are covered in your responsibility by consultation and by preparatory treatment.

There is one general underlying principle that will guide us in estimating the power of the heart. We gain information about the strength of the heart not by what we hear with the stethoscope, not by what we observe in the patient by the electrocardiograph or the x-ray, but by what the heart can do. If the heart can do its work, it is competent; if it cannot do its work, it is incompetent, irrespective of the fact as to whether it may be enlarged or not, have murmurs or not, or present other structural abnormalities. Your problem, therefore, is reduced to this question: can this heart do its work competently? If so, it can take a general anesthetic safely.

In order to answer this question, we must know what happened when the heart is unable to do its work. The term *heart failure* is applied when the heart is unequal to its task. It is then unable to furnish to the body a volume of blood under adequate pressure, properly oxygenated. If heart failure is present, a general anesthetic should not be given unless there are major reasons for so doing, and then only with proper precautions. We do this every day and do it successfully, but it is not to be undertaken lightly, and especially is it not to be undertaken without knowing that we are doing it.

When the heart fails, it shows its failure in one of two ways. These may be more or less intermingled, but usually one type predominates. One type is characterized by pain, angina pectoris or anginal failure. The other is called congestive heart failure, which we shall consider first.

Congestive Heart Failure

By congestive heart failure we mean that the heart is unable to deliver blood in sufficient volume and under sufficient pressure throughout the body to bring oxygen in adequate amounts to all the cells and carry off waste products, par-

* Read before the Society for the Advancement of Anesthesia in Dentistry, New York, N. Y., February 17, 1930.

ticularly carbon dioxid. When oxygen is not brought to the tissues quickly enough, there is oxygen hunger. There is no trouble in getting the oxygen into the lungs; the respiratory surface in the lungs is not reduced, as it may be in pneumonia. The blood in the lungs can get the oxygen, but the heart is unable to pump the blood from the lungs to the rest of the body quickly enough to supply the tissues properly. The first result of this heart weakness is, therefore, breathlessness.

This brings us to the first and almost the final rule in these matters: if a patient can climb an ordinary flight of stairs at an ordinary rate of speed without undue breathlessness, he is a fairly safe risk for general anesthesia. This means an exercise tolerance capable of lifting an average of 150 pounds over a vertical distance of 10 to 12 feet, from 1500 to 2000 foot-pounds of work within about a minute or a minute and a half. If the patient can do this without distress, without breathlessness, you will find that he will take an anesthetic without much trouble. This information can be secured from every patient very quickly and easily, without arousing any apprehension concerning his heart. You may ask him whether ordinary effort produces any distress. You may then bring out whether the distress is breathlessness or pain or palpitation or something else. Breathlessness or dyspnea is the usual cause of limitation of effort.

If congestive heart failure goes farther so that the oxygen hunger is more acute, the lips and finger-tips will be blue. If it goes still farther, there will be breathlessness, even when the patient is at rest, especially after talking. He may tell you that he can walk quietly, but if he converses with a friend during his walk, he is disturbed by the need of breathing faster.

When congestive failure of a higher degree is present, the blood accumulates in the lower or dependent parts of the various organs and of the body as a whole. The serum or liquid portion of the blood tends to seep out of the finer blood-vessels through which it is not being pumped rapidly enough, so that swelling or edema results. The accumulation of this fluid under the skin produces a soft swelling that keeps the imprint of the finger; this is called "pitting on pressure" and is the method of showing the presence of edema. This may not appear after a night's rest in the horizontal position, but will accumulate during the day so that the feet swell. A slight degree of swelling in the feet is normal in people who stand most of the day, especially in hot weather. In general, however, you ought to consider any such swelling as suspicious. It can best be brought out by the question: "Do your shoes seem to get tight toward night?"

Passive congestion of this type may cause enlargement and tenderness of the liver, accompanied by flatulence and various gastro-intestinal disturbances. In more advanced cases free fluid will accumulate in the pleural cavity around the lungs and in the abdomen. Such advanced cases would probably not present themselves as ambulant patients, although fluid around the lungs is seen occasionally in patients who are up and about. Breathlessness, then, is a fairly constant symptom.

The general picture of congestive heart failure usually begins with

dyspnea on effort, although some cases describe tightness of the shoes at night before they are much disturbed by their breathing. In more serious cases we find blueness of the lips and finger-tips, breathlessness even at rest, more marked swelling of the legs, symptoms of flatulence, indigestion and a general inability to carry on. The striking point in this entire picture is the fact that failure of the heart is indicated not by anything in the heart itself but by changes in organs or parts of the body more or less distant from the heart. The cry of distress comes not from the heart muscles in congestive failure but from the organs that complain of lack of adequate blood supply. You will get at the facts if you assure yourself by a few brief questions concerning the patient's ability to get about in his ordinary work and to climb stairs, and if you determine whether or not swelling of the feet occurs toward night.

Breathlessness on effort and blueness of the lips and finger-nails are not always the result of congestive heart failure. Stout people may puff on the stairs. The trouble here is a disproportion between body mass and heart-muscle capacity. For practical purposes they fall into the same class as subnormal risks and should not be undertaken without due consideration.

Anginal Heart Failure

In the second type of heart failure the cry of distress appears to come from the heart itself in the form of pain, called anginal pain or angina pectoris. I hardly think it would be germane to the subject to attempt a description of this pain in all its details because it has many variants. There is one general feature that characterizes the type of chest pain due to disease of the heart muscle or aorta; this is its relationship to effort. The patient will be stopped in walking by a sensation in the chest. It is usually central, in the region of the sternum or breast bone, more often constricting or squeezing in quality (although aching and burning occur), and more often than not it will extend to the left arm or to both arms. The salient fact is that the distress occurs when the patient walks, especially outdoors, and particularly after meals or in cold weather. Level walking may not produce the pain, whereas a slight hill will bring it on. The patient will tell you that he stops on the street and assumes an interest in shop windows that he happens to be near, simply for a chance to ease the pain. His breathing usually does not trouble him, although the sense of constriction in the chest may seem to make the movements of breathing a little more difficult. He does not stop because of puffing or panting, but because of a gripping sensation in the chest which increases to an unbearable degree if he persists in effort. When he stops a few moments, the pain eases up. Here the cry of distress appears to come directly from the heart when it is called upon to make an effort beyond its strength.

Both types of heart failure have one salient character in common: the relationship to effort. At rest, symptoms may be absent, but when effort (walking, stair-climbing, etc.) throws an added burden upon the circulation, its inadequacy is revealed either by breathlessness in the congestive type of failure or by chest pain in the anginal type. Therefore our questions to the patient

should always bring out the facts concerning his sensations when he exerts himself.

The degree of limitation will vary widely. The heart may be adequate during rest in bed, when sitting quietly, when walking slowly on level ground, whereas distress may appear only upon fast walking, on a hill or on the stairs. It is important to judge the exercise tolerance by comparison with the average for the patient's age and general habits. We could not consider that a man of sixty had heart failure because he became breathless after three flights of stairs. A young man of twenty who is in training or who is supposed to be fairly active would give evidence of a subnormal tolerance if he showed any definite distress after an equal amount of effort.

We must evaluate the symptoms in conjunction with the general habits, age and physical training of the individual. This is a matter of common sense. A symptom means something abnormal when it is produced by an amount of exercise that a subject of the same general age and habits should be able to do without distress.

In discussing symptoms with the patient it is a simple matter to feel the pulse. The heart may be slow or rapid, regular or irregular. If the heart is regular and rapid, there is no need for concern unless it is unduly rapid. The excitement natural under the circumstances will often be responsible for a pulse rate of 120 or 130. This need not cause concern if the breathing is not labored and the color is good.

AURICULAR FIBRILLATION

If the heart is irregular, we must distinguish between the two most common forms of irregularity. The first of these is benign: the pulse will be found to skip a beat occasionally, due to a premature contraction. This occurs from time to time and does not indicate heart-muscle weakness. It may be disregarded. As it tends to occur especially when the heart is slow, it may not often be observed under the circumstances in which you see your patients. The second type of irregularity is more serious: the heart is completely irregular so that the pulse beats are unequal in time and unequal in strength. The irregularity is continuous and is more noticeable when the heart is rapid. The underlying mechanism in the heart muscle is called auricular fibrillation. It is usually the result of pathological changes and will lead to heart failure sooner or later in most cases. Anesthesia should not be attempted in the presence of this irregularity until preliminary treatment by digitalis has controlled the rate. This irregularity is not hard to recognize. The older clinicians called it *delirium cordis* or delirium of the heart, which gives an adequate description, as the tumultuous and irregular sequence of unequal beats suggests that the heart has indeed gone crazy.

BLOOD-PRESSURE

If you have the time and the facilities to examine the patient further, the blood-pressure will be of interest. The best method of taking the blood-pressure is the auscultatory one. An arm band containing a hollow rubber cuff is placed on either arm at a point opposite the heart, so as to avoid differences in pressure due to the weight of the column of blood between the heart and the

artery. The cuff is inflated until pulsations are completely cut off below it. The pressure is then relaxed by means of a small screw valve while you listen with the stethoscope placed over the bend of the elbow just below the cuff. The first pulsation that comes through is distinctly audible as a sharp knock and measures the systolic blood pressure. As you deflate the cuff the sounds become more murmurous (second phase), then sharp again (third phase), and suddenly fainter (fourth phase). At this point, where the sounds suddenly diminish in intensity, the diastolic pressure is read from the dial or column of mercury. The sounds then diminish rapidly in intensity until they fade out completely. In general, it is sufficient for your purposes to determine the systolic blood pressure; if this is above 170 or 180 mm., the patient should be given special consideration as an anesthetic risk. It is quite safe to operate upon patients with high pressure, but special precautions are in order, particularly as to the choice of the anesthetic. At times there are cerebral accidents due to anesthesia, or that simply happen to occur during anesthesia. These could be avoided, or at least your responsibility could be adequately covered, by consultation when the blood-pressure is abnormally high.

The Stethoscope

I have been asked about the use of the stethoscope. In general I believe that you will have little opportunity to use it, and that possibly its use may complicate matters rather than simplify them for you. A possible exception may be in taking the blood-pressure, if you wish to make that a part of your examination routine.

Applied to the chest wall, the stethoscope will enable you to hear murmurs—swishing or blowing sounds which are synchronous with the movements of the heart. The loudness of the murmur does not indicate the strength of the heart, and the use of the stethoscope in this way is not of value except in making a complete analysis of the various lesions present. Such an examination would not be within the scope of your work.

It is, however, quite possible for you to reach a reasonable degree of certainty concerning the presence or absence of cardiac failure. The important points may be summarized as follows:

(1) The heart shows signs of failure when it is asked to do extra work. Significant symptoms will therefore occur when the patient indulges in effort.

(2) Congestive heart failure is shown by breathlessness, cyanosis, swelling of the feet and other signs of passive congestion. It is important for you to determine whether the patient can climb an ordinary flight of stairs at a normal rate without distress, and whether he can carry on his ordinary activities without breathlessness.

(3) Anginal heart failure is characterized by pain in the chest which comes on under the stress of effort. The fact that must be established is whether the patient can get about without distress, in this case pain and not breathlessness.

(4) By taking the pulse you can discover the complete and tumultuous irregularity, auricular fibrillation, which calls for medication before anesthesia.

(5) If time and facilities permit, a knowledge of the blood-pressure is helpful, as a high blood-pressure should lead to more care in administering an anesthetic.

310 West 85th Street

DISCUSSION

M. Hillel Feldman, D.D.S., New York: Dr. Ramsay of Columbus, Ohio, in the *Journal of Current Researches of Anesthesia and Analgesia* for January speaks of the border test for a patient to determine his availability as a risk for general anesthesia. He attempts to find with a stethoscope whether the heart beat can be discerned to the right of the sternum. Do you think that is a reliable test?

Dr. Raisbeck: No, it certainly is not, because you can have very serious heart disease with little enlargement of the heart to the right and you can have a central or globular heart in children in which the border goes relatively quite far to the right, to the right of the thorax. The size of the heart is no criterion of its ability to do its work. A very large heart and one that we call "well compensated" will take your anesthesia beautifully without any fuss or worry. And some small hearts like those of mitral stenosis may not. In the last analysis the test is what that patient can do, and not the size of the heart. If he can run for a car without getting out of breath or having distress, you can give him all the anesthesia you can give any one else, barring idiosyncrasies.

Pain in the region of the heart is of two kinds, significant and not significant. The significant type of pain is usually central. It bears that continual relation to exercise. It may come on spontaneously, but it comes on also when a patient tries to walk or climb stairs, and that is the serious type. The other kind of pain we find in neurotics who smoke too much or take too much coffee. They have needle-like pains, and they can walk it off. It comes on more at rest than working and has no relation to effort and doesn't limit their ability to do except by the general sense of illness and apprehension. When you ask them, they will say, "No, I don't have to stop for the pain; it doesn't occur when walking, but just as often when sitting down." There isn't that limiting action.

Remark: The average patient in the average office coming in for the purpose of having some teeth extracted by a general anesthetic sometimes becomes unnerved at the thought of it. Most practitioners, if they were to take a stethoscope and begin asking questions and trying to examine, would find that the patient would run away.

Dr. Raisbeck: That is what I was afraid of. That is what I think is your special problem.

Question: Could you tell us another way, one whereby the patient would not become unduly excited or notice what we are about to do and do it in such a way?

Dr. Raisbeck: There is no way you can examine them without examining them.

Question: No, not to the extent you would, but for the general purposes of our work what do you think?

Dr. Raisbeck: You can feel the pulse without the patient knowing that you are paying much attention to it, and that would reveal the irregularity, the so-called auricular fibrillation. But I think your best approach is to question them quietly. They don't know what you are driving at. "How do you feel?" "Good." "Do you get around comfortably?" "Yes." "Do you ever get out of breath?" etc. There is your answer. If they can't climb a flight of stairs, I doubt whether any further study would clinch the question or allow you to go ahead with safety. If they can't get up one flight of stairs without puffing, then you need help before going ahead if you want to play safe.

Question: How about the strength of the pulse?

Dr. Raisbeck: That means very little, because you can have a blood-pressure of 260 with an apparently small pulse that gives you no hint. Strength of pulse is of interest in one patient followed minute by minute in the course of anesthesia. But you have to learn what his average pulse is at that time.

Dr. Feldman: Dr. Raisbeck, I have here a reprint of an article written by Dr. W. I. Jones of Columbus, Ohio, called *The Breath-Holding Test as a Safety-First Factor in Determining Surgical Risk and Oxygen Need Under Anesthesia.* It says: "In 1914, Stange, of Petrograd, recommended the so-called respiratory test as the best indication of the patient's cardiac condition for withstanding operation under general anesthesia. Stange's method of using the breath-holding test is very simple—the patient, sitting at ease, takes a deep (not forced) inspiration and closes the mouth, the nostrils being compressed to avoid involuntary expiration, and while the patient holds the breath as long as possible, the passing seconds are counted.

"Healthy persons can usually hold the breath from 35 to 45 seconds, while those with weak heart muscles can do so only from 15 to 20 seconds. If there is any doubt as to the exact breath-holding capacity of the patient, the test may be made more exacting by evaluating the average of several successive breath-holding tests."

Dr. Raisbeck: Breath-holding tests are exactly the same as the power to do exercise. They simply measure the respiratory power, and the trouble with the breath-holding test is, first, if you have an apprehensive patient you are going to have trouble about what you are going to do to him with regard to his teeth, and, second, the breath-holding test is not quite fair from the point of view of individual variations. The youngster who spends his summer months in swimming can hold his breath much better than the sedentary office-worker who never gets any athletic exercise and will make a very much poorer showing. What you want to evaluate is whether the heart is normal for that person's general habits, and for that purpose his habitual exercise is better as a judge of his ability than some artificial test. I have put them through all types—the Snyder Test, the dumb-bell test—but those tests do not give us the

practical clinical "dope" that we really need nearly so well as a few questions intelligently put and properly interpreted as to what the patient actually can get done in his daily work. If he can get around nicely or could six months ago and then can't get to the station because he is stopped twice on the way, there is something wrong whether he can hold his breath so many seconds or can't hold it. And I think that is more practical from your point of view. These breath-holding tests have been held from time to time. They are valuable, but their special subject varieties are on methods of determining the same thing.

Dr. Feldman: Would you say that if a patient faints in the very early stage of induction of a general anesthesia, it is the result of psychic shock or some trouble with the heart that we can't determine?

Dr. Raisbeck: Fainting is never practically due to the heart. It is due to improper blood distribution. The blood accumulates in the veins of the abdomen or there is some extreme vaso-motor phenomenon due to pyschic or other trauma. We see it in shock, in cases of trauma, in cases of pneumonia. We see it in shock when the blood-vessels do not tighten up enough to keep the blood distributed to the brain and they faint. Those cases that have a primary cardiac syncope are extremely rare. You see it in heart disease, for instance, in coronary thrombosis and such conditions, but that is not the kind of thing you get in operations. If you did, you would have a hopeless proposition. It wouldn't be your operation that did it.

Dr. Feldman: I have had two or three in the last three years. It is just as apt to happen to one of these men the first time they try it.

Dr. Raisbeck: Get the patient horizontal and give him adrenalin. But the horizontal position will probably do much more than the adrenalin.

Dr. Feldman: I just happened to have in my hand now a quotation from Dr. Ramsay in the current issue of the *Journal of Current Researches of Anesthesia and Analgesia* on that very subject. He says: "We have not personally witnessed a sudden death attributed to nitrous oxid-oxygen anesthesia, but from the literature and interviews with other men such accidents usually occur in the first few minutes or seconds of anesthesia. For a long time I have wondered if some of the accidents might not be attributed to the method of supplying pure nitrous oxid to the patient and then, as cyanosis appears, reducing it with oxygen.

"It has seemed to us a sudden anoxemia could so overburden a heart which might or might not have been previously diseased and dilatation could take place."

James T. Gwathmey, M.D., New York: I think we have now, by these four gases, a better means of protecting the patients than they ever had before. Nitrous oxid was first introduced as a universal method of asphyxiation, extracting the patient's teeth while asphyxiated. In fact, when I started lecturing at the New York Dental College, those at the head of the place thought asphyxiation and anesthesia were synonymous terms, and it was hard to convince them that you can anesthetize a patient without asphyxiating him. If you start a case and carry it too far with nitrous oxid without

oxygen, you unquestionably throw a terrific strain on that heart, and, if it is a weak heart, you might have trouble. If you start the anesthetic the way most of us here do, that is, start it with oxygen as well as with the nitrous oxid (and you can do that—it has been done in thousands of cases), then you run less risk. And if you notice any variation or anything, add just a little more oxygen. You have the tanks separate. Keep your patient pink at all times and you will run little or no risk. Dr. Feldman is right in the quotation he gave. Over 90% of all the accidents in either surgery or dentistry occur in the first two or three minutes and therefore anesthesia in dentistry is unquestionably the most dangerous method of anesthesia that I know of, because it is all just initial, primary, and then goes on to deep anesthesia. The risk that a dentist takes is not in a weak and anemic patient with a bad heart but in the athlete and the alcoholic. Those are the patients that you probably have trouble with, and those are the patients who die in the dentist's chair. I have anesthetized many patients who were near death and never had any trouble, not the slightest with them. Why? Simply because they could not fight the anesthetic. You take an athlete or an alcoholic. They can take a long deep breath and hold their breath long enough to throw all that anesthetic gas upon the heart at one time, and there is where the danger is. If you start the anesthetic with nitrous oxid alone, you run a certain definite risk with those patients.

I want to compliment the speaker upon his excellent talk. I was wondering why Dr. Feldman asked some one to give a talk on the heart. I was afraid he would go into technicalities and details that were unnecessary. But this talk has been most encouraging and I will agree with everything that the speaker has said. I have nothing to criticize. And I think he did bring out in speaking that weak hearts are not the ones to be afraid of, but athletes and alcoholics.

The speaker was absolutely correct in his attitude toward that breathing test. By asking a patient a few questions or finding out without the patient's knowing it where he lives, how he lives, whether or not he gets out of breath in going up or down stairs, you have done the equivalent to the breath-holding test. Absolutely! The two are synonymous and you have found out all that you want to. If you ask your patients a lot of questions, of course you may get them so nervous they won't want you to pull a tooth.

I think that with the four gases we have now and the methods that most of you use of starting the anesthetic with oxygen a patient even with a bad heart runs very little risk. My experience with these heart cases is that if the anesthetic is properly given, the heart seems to straighten out under the anesthetic.

Question: If you are administering an anesthetic such as the dentists would use, would you begin it with some carbon dioxid?

Dr. Gwathmey: Oxygen and carbon dioxid! Of course the technic varies just a little. But the thing is, we have given enough anesthetics now—Dr. Feldman and these other gentlemen present—to know that it is unnecessary to asphyxiate or semi-asphyxiate a patient at any time. The way nitrous oxid

kills is by asphyxiation. So why run that risk at any time? It is unnecessary. I wouldn't let a dentist or a doctor or anybody else asphyxiate a good dog I had an interest in. I would rather send him to somebody who wouldn't asphyxiate him in giving an anesthetic. I wouldn't send a patient I knew to a doctor who I knew was in the habit of asphyxiating them and bringing them back to life again. That is the way nitrous oxid kills. It has no effect on any of the organs. There is no fatty degeneration of the heart, liver, lungs or anything else, but you run a definite risk every time you give any nitrous oxid to the point of asphyxiation, and that is unnecessary. Nitrous oxid is a true anesthetic. We know that, because, for instance, you can kill an animal with nitrogen and never get him in analgesia. But long before you kill an animal with nitrous oxid you have analgesia. And so it is unnecessary to asphyxiate. It takes a little longer, you may use a little more gas when you use oxygen from start to finish, but you are certainly safer, and if you keep your patient pink at all times (it is almost impossible of course to do that with every patient, for every once in a while you cyanose a patient, but that is accidental) you will be all right.

[GOOD ROENTGENOGRAMS NECESSARY]

In making the so-called dental diagnosis as a component of general diagnostic observation, the roentgenogram is an essential factor. Properly made, it may be misinterpreted, but it does not itself falsify; improperly made, it may be worse than useless, suggesting conditions that do not exist. It is worth while, therefore, to demand or produce complete well-made roentgenograms, study them carefully and predicate our procedures upon their disclosures.

—MOLT.

Restoring Pleasing Expression with Artificial Dentures*

By JAMES P. RUYL, D.D.S., New York, N. Y.

SECOND ARTICLE

CORRECTING A PROTRUSION CAUSED BY THE LOSS OF THE MANDIBULAR POSTERIOR TEETH

When Mrs. M. B. C. lost her mandibular posterior teeth, she did not think much about it because nine of the mandibular anterior teeth remained firm in position and she still had all her maxillary teeth except the bicuspids on the right side. They were in excellent condition, close together and in good alignment.

But mastication without the support of the mandibular molars had its usual deadly results on the maxillary teeth. They were driven forward and outward from the center of the mouth. Resorption of the supporting tissues went on gradually but progressively. After a while the right maxillary central was driven far out of line and lost and the other teeth were so infirm and out of position that when, some years later, she inquired as to what could be done none of the maxillary teeth could be saved. It was thought that perhaps the mandibular teeth could be retained, but a partial denture carrying the mandibular posteriors was essential. The construction of the mandibular partial denture was easy, as were also the mechanical aspects of the full maxillary denture.

Attention had to be focused on correcting the unfortunate change in her expression which resulted from the malposition of the maxillary natural teeth, in such way as not to attract the attention of the family.

Experience shows that an effort to correct entirely and immediately any long-standing distortion of the expression will not be satisfactory to the patient or her family. In cases of this kind I have never known it to fail that although the patient leaves the dental office well pleased with the corrected denture because of the explanations which the dentist has made, when she gets home and meets the family, they say: "Why, Mother, this is not you. You always used to show your teeth. I'd go back and tell the dentist about it and have him make it right."

In such cases the dentist will usually have to remake the denture and will perhaps make the distortion worse than it was in the first place. If the dentist will instruct the patient as to the desirability of returning the expression to normal by means of a *series* of dentures exhibiting gradual corrections which will pass unnoticed, everybody will be happy.

In this case the maxillary centrals and right lateral were selected as the teeth whose position should retain the characteristic expression, and which should be shifted from time to time to return the expression as far toward

* This is the second of a series of six articles by Dr. Ruyl on this subject.

normal as proved to be desirable. The necks of the centrals were kept a little forward of what was to be the position

Fig. 1

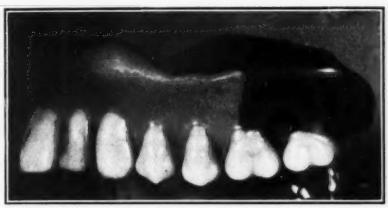


Fig. 2

in the final denture, and the mesio-incisal angles were brought well forward of the usual position. The disto-incisal angle of the right central was kept back nearly in usual alignment, but the same angle of the other central was brought forward a little to avoid monotony of arrangement.

This position of the teeth, which is shown, at least in part, in Figs. 1 and 2, retained the impression of protrusion to which the family had long been accustomed, although the teeth were not nearly so far forward as the natural teeth had been. She could not easily cover the natural teeth with the upper lip and so a little of the artificial teeth was allowed to remain exposed when the lip was relaxed. The patient said: "That is just the way I used to look years ago." How grateful we should be that people have good "forgetteries"!

In about a year the second maxillary denture was put in place. The protrusion of the centrals was further reduced, but no other change was made. While it would be possible to make another denture and remove all of the protrusion, the present result is so satisfactory to patient and family that such a construction seems unnecessary.

Fig. 3

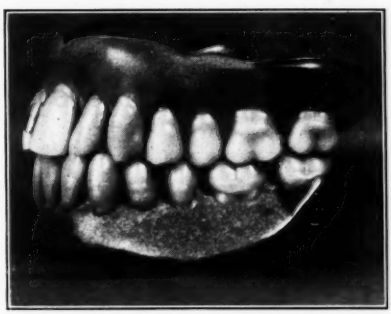


Fig. 4

Later the natural mandibular teeth were lost and a full mandibular denture was made. The case as it now appears is shown in Figs. 3 and 4.

285 Madison Avenue

Interception of Malocclusion*

By R. C. WILLETT, D.D.S., Peoria, Ill.

The ancient wisdom that sat beside the cradle of the race found expression in the assertion that an ounce of prevention is worth a pound of cure, yet in spite of the perception of this fact a stupendous amount of experimental and research work in every branch was directed for an incredibly long period of time to the cure instead of the prevention of diseases and their ensuing deformities.

Perhaps in no department was this cart-before-the-horse procedure more apparent than in that of orthodontia, for at a comparatively recent date the belief prevailed that orthodontic practice pertained only to the proper adjustment of teeth already malposed, and because of this limitation of vision little time was spent in studying abnormal conditions that, unchecked, would inevitably cause malformed arches and malocclused teeth.

Fortunately, however, for the human race, there are a few in every line of work who are not satisfied with the obvious, and today, due to their published observations and results of research work appearing in special and general literature, we have entered upon a new era. We are taking a broader view of our responsibilities and our opportunities. We are being aided by the changing viewpoint of the general practitioner of dentistry, and, as a further help, the laity have become somewhat informed about the causes of oral defects. A recent statement was made by a good authority that through preventive means the need of orthodontic treatment can be reduced fully seventy-five per cent. If we accept this statement as a fairly accurate one, it is an indirect accusation of neglected service for the child patient in an important branch of dentistry, a service that more properly belongs to general dental practice than to orthodontia.

The tendency of the day is toward specialization in every line, and gradually the profession of dentistry has been divided into various branches. While specialization has undoubtedly resulted in a greater and more rapid achievement in the art and science of our profession, if children's dentistry is set apart in general practice and the general practitioner does not recognize his plain duty in regard to the dental needs of children whose families are not able to pay a specialist's fee, the inevitable result will be a limited service to the few and no material reduction in the seventy-five per cent of preventable variations from normal that are productive of malocclusion.

The problem is plainly one that rests with the general practitioners of dentistry, and by their competent handling of it more good can be accomplished than through the work of the orthodontists or the specialists in the exclusive practice of children's dentistry.

Through a careful checking of the major problems in the general practice

* Given before the Twenty-Fourth Annual Meeting of the Marquette University Dental Alumni Association, Milwaukee, Wisconsin, November 14, 1929. (From a stenographic report.)

of orthodontia I have proved to my own satisfaction that seventy-five per cent of orthodontic treatment could have been avoided by the use of interceptive means which any dentist of average skill might have applied at some opportune time during the development of the incipient variations that changed the course of normal growth of the dental arches and occlusion of the teeth.

Without consideration of the degree to which underlying constitutional factors, intrinsic in character, may predispose the infant or the young child to progressive types of malocclusion, it is certain that under the effect of an adequate diet and an improved functioning of the jaws and the teeth such oral deformities can be greatly modified. In the other class of malformation, due to local and acquired conditions, intrinsic in character, such as malnutrition, malfunction, premature loss of deciduous teeth and pernicious habits, it is a demonstrated fact that in many cases the cause of malformation can be completely intercepted by comparatively simple means. After the defects of deciduous teeth, in conjunction with the supervision of an adequate diet, the maintenance of a full function of the deciduous molars is usually next in importance. From the time of their eruption until they are finally lost and replaced by the bicuspids the deciduous molars are beyond all question the most important functional units in the dental mechanism.

As an aid to nutrition and a normal growth of the jaws during this important period in the development of the child, the value of the functional perfection of the deciduous molars cannot be overestimated, for it is principally through the normal function of these teeth that the child's food is properly masticated and so prepared that the organs of digestion are enabled to carry on their work successfully.

The occlusal stress of mastication is essential for the healthy condition of the soft tissues and is a contributing factor in the vertical development of the alveolar process in this region. Teeth that are used regularly and in normal function are less susceptible to caries than teeth that are out of their proper function.

Arthur D. Black recently suggested that if the deciduous molars are carious and sensitive, the normal function of chewing may be interfered with so seriously that the child will not use the permanent first molars with normal vigor, and that, as a consequence, these teeth will be more susceptible to caries.

In view of the importance of perfect and complete function of the deciduous molars, because of the extent to which physiological growth of the jaw, face and cranial structures is dependent on that factor, no restriction should be placed on the method of service required to prevent or remedy the defects that involve anatomical form, permanency of structure, and comfort in the use of it, provided that such a method is adequately efficient.

FILLING DECIDUOUS TEETH

The term *temporary teeth*, so frequently used in referring to deciduous teeth, seems to have carried with it the idea that the filling of them may be temporary, and that the operations involved do not demand of the operator the same consideration and skill required

of him in correcting similar defects in permanent teeth. In all dental theory it would be impossible to find an idea that is more fallacious. After years of observation of the pitiful results from faulty filling of deciduous teeth and because of having been so frequently compelled, in the practice of orthodontia, to work under the handicap of such results, the necessity of an improved technic in these very important operations became apparent, and these experiences resulted in the effort to devise and introduce a more definite technic for the filling of mesioocclusal and distal cavities in deciduous molars where caries had not progressed to a depth of pulp involvement. The technic which was devised will be given in detail. It is not complicated nor is it difficult of application in practice, but, on the contrary, it conserves the nervous energy of both patient and operator.

While it has five distinct advantages over the more common plastic filling operations, the cavity is prepared with crystalline mounted points, causing less pain than would result from the use of a steel bur. It does not involve the making of undercuts, the base of retention being in the solid enamel and dentin remote from the horns of the pulp. There are no overhanging edges of enamel that can be broken down, permitting a leak and ultimate loss of the filling. The anatomical form of the tooth is restored, with the result that full function is permitted and protection given to the gingival tissues.

In the event that orthodontic treatment is indicated before root absorption occurs, defective deciduous molars, if restored to normal form by this method, afford a more satisfactory base of anchorage for appliances.

A detailed description of the technic follows. The left maxillary deciduous first and second molars are selected for illustrating the technic. The cavities are opened and the decay carefully removed with sharp hand instruments, a No. 73 wheel-shaped crystalline mounted point being used. A cut is made directly between the teeth, the cut involving the disto-proximal surface of the deciduous first molar and the mesial surface of the second molar. The cut should go lightly from the gingival ridge to the occlusal sulcus. At the operator's discretion it may be properly cut with a No. 64 wheel, which will make a flat gingival seat. Cocoa-butter applied to these points will reduce friction and vibration. After the proximal surface of the teeth has been well prepared, a well defined groove is cut from the occlusal sulcus to the central fossa with a No. 13 mounted point. There is the important feature of anchorage.

The final step in the cavity preparation is taken by cutting, with a No. 37 or No. 38 mounted knife-edged wheel, a sharp groove that extends from the buccal surface across to the occlusal surface, connecting with the occlusal groove and extending well over the lingual surface of the tooth.

Now that this important part of the work has been finished, modeling-compound impressions are taken following, with some exceptions, the method of impressions as illustrated in the technic of Charles R. Baker. This technic was presented at the First International Orthodontic Congress in 1926.

A quick-setting impression compound

which has been softened in water at a temperature of about 130° is used in a partial impression tray with the handles eliminated. The tray is introduced into the mouth and the compound forced around the teeth and soft tissues in the usual manner until the occlusal surfaces of the teeth are close to the tray. The impression is thoroughly chilled, a small piece of soft impression compound is placed in the molar region of the impression, and the tray is again placed in the mouth and forced into its former position. Considerable pressure is used in doing this, and the tray is held firmly in place until the second piece of compound has thoroughly hardened. The setting can be hastened by chilling with cold tap water or, preferably, ice water. The impression is then removed from the mouth with as little lateral motion as possible in order to avoid distortion.

Of the prepared cavities two impressions are taken. Following the taking of these impressions the cavities are washed with tepid water and dried, but not thoroughly desiccated. Uggur-oil is applied and the excess removed. Silver nitrate is next applied, and this treatment is followed by another application of uggur-oil to neutralize the excess of nitrate of silver. Such prolonged treatment of a cavity is not necessary, however, unless through instrumentation the exposed dentin has become hypersensitive. The cavity should remain packed with gutta-percha until the time appointed for the completion of the operation.

THE INVESTMENT COMPOUND MODEL

The compound impressions are filled with a well spatulated, thick, creamy mixture of low-heat No. 1 investment material. The model thus secured is strong, hard and non-shrinking when subjected to a drying heat not exceeding 400°. For clarity in the presentation of this technic the models made from the two impressions will be respectively designated as Model No. 1 and Model No. 2.

Inlay wax is flowed into the model of the prepared cavity in the deciduous first molar of Model No. 1. When the wax is properly shaped and carved, the process of investing and casting direct to the model is carried through in the usual way, with the fact in mind that the invested model is one that should not be subjected to a drying-out heat of over 400°.

In the elimination of wax and moisture a hard gold alloy is recommended and is a necessary material for the casting of such inlay restorations. After the cast inlay is polished, it is placed in its proper position in the deciduous first molar of Model No. 2. The wax pattern of the inlay for the deciduous second molar is made in the same way, that is, by filling with inlay wax the model of its prepared cavity, the carving being finished with the exception of the proximal contact with the inlay of the deciduous first molar. That portion of the model anterior to the wax pattern is cut away, exposing the mesioproximal wax surface, which is then carved, leaving a point for normal contact and freedom of space at the gingival.

If care has been taken to follow the tooth outline in carving the wax pattern before casting, the inlays should require no grinding to permit of proper occlusion when they are set.

This same technic can be applied to the preparation and filling of deciduous cuspids, the knife-edged stone being used to make the labial and lingual cuts.

The presentation of this method of filling deciduous molars has been deferred until its value has been proved and thoroughly tested and its advantages demonstrated through several years of use. It has been not only our own experience but that of general practitioners who have adopted it that the technic has proved itself to be highly practical, and that it overcomes many discouraging features usually encountered in the filling of cavities of deciduous molars.

If the carious condition of deciduous molars has progressed to a depth which involves the pulps, they should be carefully treated and the root canals should be filled when such a procedure is possible and indicated. If the conditions are such that root-canal fillings are contra-indicated and it is impossible to eliminate infection in any other way, the deciduous molars should be removed. The extraction of these roots should be accomplished in such a manner as to remove them completely and without injury or dislocation of the succeeding bicuspids. Small spicules of deciduous roots often cause malocclusion of permanent teeth.

Habits

When we attempt to discuss the subject of habits we enter a field of speculation, theory and argument about the etiology pertaining to them, which field I shall not try even to review, but I shall proceed to mention a few practical means of intercepting malocclusion resulting from the very common habits that interfere with normal growth.

Thumb- and finger-sucking may be classed as the most common of the many pernicious habits that affect arch formation and occlusion of the teeth. Many methods for the interception of this habit have been suggested and put into use, but in our own experience the corrective device that has been of the greatest value is the one known as the Jackson sanitary thumb-guard, which can be procured from a civic organization in New Haven, Connecticut, known as the Child Welfare Guild.

Collapse of the dental arches due to the habit of cheek-sucking, though not common, is occasionally encountered. The habit of sucking the cheek and its results can be best shown by presenting the case of a well nourished boy four and one-half years of age. The dental arches were deficient in development, owing to the perverted use of the muscles of mastication. He sucked his food instead of chewing it. The width of the maxillary and mandibular arches in the deciduous region was 22 mm., while it should have been not less than 28 mm. Corrective treatment was applied until the width of the maxillary and mandibular arches was increased 6½ mm. It was noticed that the permanent first molars followed the lateral development and were erupting in correct alignment.

Considering other characteristics of this child's skeletal development, and also that there were no corresponding physical abnormalities indicating rickets, an early diet that would have necessitated a vigorous use of the deciduous teeth would have intercepted the oral deformity. It was only in conjunction

with the cultivated habit of chewing his food that the orthodontic treatment applied was successful in accomplishing the results shown in the fully developed arches.

While it is generally recognized that the prolonged retention of deciduous teeth is frequently a causative factor of malocclusion and results in abnormal development, an observation of usual practice reveals the fact that the general practitioner seldom inspects a deciduous tooth except for one or more of the following reasons: that it is loose and is causing irritation of the soft tissues, that the succeeding permanent tooth is erupting, that it is abscessed, or that it is carious and he does not choose to fulfil his obligation as a conscientious dentist in performing the proper operation, which seems to be of a difficult character.

Nature's plan seems to be that the eruption of roots of deciduous teeth progresses as the permanent teeth develop, that the deciduous teeth are shed a short time before the eruption of the permanent successors, and that the loss of a mandibular deciduous tooth occurs slightly in advance of the loss of a corresponding maxillary tooth. When nature's plan works harmoniously it is favorable to normal occlusion, but variations that induce the onset of malocclusion are of frequent occurrence.

We are indebted to Charles R. Baker for much original research and theory relating to the supervision of the removal of deciduous teeth in the interception of malocclusion, and the results of more than twelve years of practice of Dr. Baker's theory and method enable me to endorse the soundness of both.

The importance of supervising the normal shedding of deciduous molars and the eruption of bicuspids cannot be overestimated, for, unless changes take place normally, malocclusions of the bicuspids and molars are certain to occur. This is true for two reasons: (1) the bicuspids erupt between two areas occupied by permanent, well developed alveolar process; and (2) the bicuspids are smaller in mesio-distal width than the deciduous molars. The corresponding maxillary and mandibular deciduous molars on the same side of the arch should be lost approximately at the same time if the jaws are to develop harmoniously.

In my own practice, when a bicuspid has fully erupted, I remove the corresponding deciduous molar from the opposite jaw. If malocclusion is present, it may not always be advisable to follow this rule, but it usually applies if the mesio-distal relationship of the arches is normal.

PREMATURE LOSS OF DECIDUOUS TEETH

In general and special literature, during recent years, many articles have appeared dealing with the subject of the premature loss of deciduous teeth and the prevention of malocclusion incident thereto. In the many references available, however, the main thought appears to have been directed to the maintenance of space in the affected area, but such maintenance falls far short of being a complete interception of malocclusion. The anchorage for such an apparatus designed for space retention described and illustrated in these many articles has been the commonly used anchor band for orthodontic appliances, but for

several reasons this band does not fulfil the basic requirements in the construction of a space-maintainer. Due to the fact that patients for whom space-maintainers are made are not always under continuous care of the dentist or orthodontist, the opportunity for the repair of a broken band or cement attachment to the tooth is not afforded until actual injury has been done to the tooth structure or gingival tissue. Because the stress upon such appliances is in direct line with the force of occlusion during mastication, the secure attachment of all parts of the design is necessary.

In the maintenance of a normal progression in the growth and development of the dental arches the restoration of function is an important factor, demanding of an appliance greater strength and more security than anchor bands can give. With these basic facts in mind a space-maintainer was devised that has been applied in a sufficient number of cases over a period of years to prove its value. For the reasons previously stated the anchorages for all space-maintainers made in my own practice are overlays cast direct to a low-heat No. 1 model.

For the investment model, as between a hard gold alloy of from 3% to 8% platinum content, the 8% platinum alloy is to be preferred. This anchorage can be used to advantage in all cases where a molar anchor band would be indicated in the making of a fixed orthodontic appliance or space-maintainer. The fact that the finished cervical margin of the overlay can encroach no further on the soft tissue than the free margin of the gum minimizes the irritation of that tissue.

The metal covering of sulci of the occlusal surface does not seem to interfere with the occlusion to the degree of being an annoyance, as some might suppose it would. Patients who have previously undergone the experience of fitting, cementing and wearing anchor bands invariably express a preference for the overlay. A complete description of the cast overlay technic applicable to the anchorage of such appliances will be found in an article entitled *Cast Overlay Technic and Its Application in Practice* read before the American Society of Orthodontists at Buffalo in 1926. The librarian of the American Dental Association has been supplied with a number of reprints of this article, and those interested will be furnished a copy of the reprint upon request.

Probably the most frequent premature loss due to caries of deciduous teeth is that of the deciduous first molar. An easily constructed space-maintainer for such a condition consists of cast overlays for the deciduous second molar and the cuspid. These overlays are connected by a semi-fixed bar, a soldered connection at the molar overlay and the mesial end of the bar is supplied with a vertical pin that rests in a short vertical tubing soldered to the disto-proximal surface of the cuspid overlay. This appliance not only maintains space, but restores function in the infected area.

An even simpler maintainer of space was effectively used in the case of a child, aged six years and seven months, in whom the early loss of the mandibular deciduous second molars had occurred. Cast overlays were made for the maxillary deciduous second molars

on the right and left, the overlays having a heavy cast spur on the occlusal surface that occluded with the mesio-proximal surfaces of the mandibular permanent first molar. This case has been under observation for three years, furnishing evidence not only that malocclusion has been intercepted, but that a general improvement has taken place in the dental arches. The tendency of the malocclusion was that of mesial to normal.

The premature loss of the deciduous second molars prior to the eruption of the permanent first molars is considered by many practitioners to be the beginning of complications beyond our power to intercept, but this conclusion is not justified by the facts of practice.

The remedy consists of a simple fixture which has proved its efficiency in many cases; in fact, from its proper application nearly 100% more of desired results have been obtained than from any other type of space-maintainer used in seemingly more favorable conditions. This fixture is composed of a cast overlay anchorage which covers the deciduous first molar and cuspid and has a distal extension that engages the mesio-proximal surface of the unerupted permanent first molar. Access to the permanent first molar is gained by a slight operation, which removes just a sufficient amount of tissue to expose that area of the permanent first molar against which the distal extension of the overlay anchorage is placed. The distal extension also serves as an occlusal rest for the deciduous second molar of the opposing arch, which service results in the restoration of function and the prevention of that tooth from dropping out of occlusal alignment, this being fully as important as the interception of a mesial migration of the permanent first molar.

THE MULTIPLE LOSS OF DECIDUOUS TEETH

From a group of cases now under treatment three cases have been selected with which to illustrate the means of restoring function and maintaining arch form under such conditions. Each case involves complications that will be met in attempting to intercept malocclusion due to a loss of non-deciduous teeth at too early an age. None of these cases has been under treatment a sufficient length of time to reveal the full benefit which the little patients will derive through the applied methods, but in all of them there is enough evidence of improvement due to restored function to justify the treatment.

The first case is that of a little girl, three and one-half years old, in whom because of infection due to caries and systemic involvement it became necessary to remove from the maxillary arch the first molars and the central and lateral incisors. From the mandibular arch the four molars were extracted, the complete operation resulting in the loss of ten deciduous teeth. Owing to impaired function, a cross bite had developed and the force of this malocclusion, bearing upon the deciduous left cuspid, had deflected that tooth lingually. Following the correction of the malposed cuspid partial dentures were made. These dentures gave the little patient service for a period of more than two years.

The mandibular permanent first molars were the first to erupt. Advantage was taken of their eruption, and space-

maintainers were made. The space-maintainers made for the maxillary arch were constructed in two sections as a precaution against any interception of arch development if natural growth in the width of the arches occurred before the permanent first molars erupted. That that function plays an important part in the growth of the jaws is fully proved in this case.

A recent examination made five months after the placing of these space-maintainers revealed a separation of the maxillary space-maintainers at the median line at an increased width of both arches. The occlusion was established and the eruption of the permanent first molars will undoubtedly establish normal occlusion relationship. The change of form now taking place in the angle of the mandible is evidence that there will be no lack of vertical development.

A little boy when seventeen months old received a mouth injury which resulted in the complete loss of the mandibular deciduous incisors and the right maxillary deciduous central incisor. Twenty-one months later, at the age of three years, the case was brought to our attention. A narrowing of the mandibular arch had occurred in the region of the missing incisors estimated at about 20/100 of an inch in the average width of a mandibular deciduous incisor. An appliance of the spring-wire type was adjusted and by this means the width of the mandibular arch was increased to what we considered normal dimension.

Through the forces of occlusion the maxillary arch followed the expansion of the mandibular one. The time required to complete this phase of the treatment was three months.

Following the development of normal width to the deciduous arches the missing teeth were restored. To make certain that as little interference as possible would occur with any natural development that might take place in the width of the jaw, a double-track sliding device was placed on the lingual of the mandibular artificial teeth, the space-maintainer being constructed in two sections.

The artificial teeth not only have restored function in this case, but are proving their value as aids in the cultivation of speech. In the event that further expansion of the dental arches is indicated before or after the eruption of the permanent first molars, appliances can be adjusted without removing the artificial teeth.

An Unusual Case

In presenting an unusual case it is necessary to call your attention to certain complications which were the result of birth injury, malnutrition, physical and mental retardation, and a premature loss of deciduous teeth. This boy at the age of three years and three months was brought under our observation by a public health nurse during August, 1928.

The family history. The delivery had been by forceps, and the child's weight at birth was eleven pounds. Cerebral hemorrhage had occurred. He was nursed at the breast for five months and then, because of malnourishment of the mother and child, artificial feeding was instituted. There was paralysis of the hands, lower limbs and feet; rickets had developed early, and the spine had be-

come curved. The teeth had begun to erupt at the age of five months, and it was reported to us that all of the deciduous teeth erupted at about the same time, an unusual occurrence in so young a child.

History at introduction. The boy was anemic, his skin sallow, his eyes dull, and his tongue coated. The lower limbs were stiff in the joints, the feet were crossed when in repose, the hands were like knotted bunches of tendon and bone, and he was unable to stand without support. The tonsils were hypertrophied, adenoids obstructed nasal respiration, and he was unable to talk.

Condition of the teeth. The function of the teeth had been lost. Caries had progressed until the pulps of all the teeth of the maxillary arch and of four molars of the mandibular arch were affected. Numerous alveolar abscesses were active. Six mandibular teeth were infected with caries. The ten deciduous teeth in the maxillary arch and the four deciduous molars in the mandibular arch were extracted on September 9, 1929.

Following the operation an adequate diet list was formulated and supervised by the public health nurse. On the day the teeth were extracted the boy weighed eighteen pounds. During the next two months he made a rapid recovery, and when the case was again brought to our attention he weighed twenty-seven pounds, thus registering a gain of nine pounds in that brief period. The physical and mental conditions of the little fellow were the reverse of those he first presented to us. The stiffened joints had become somewhat flexible. The eyes were lustrous and observing. The skin was good in color. The mentality was much improved, and the child showed a cheerful, smiling countenance.

The impingement of the six anterior teeth of the mandibular arch upon the ridge of the maxillary arch was an irritating factor, and our first effort was directed toward the relief of this situation by means of a vulcanite baseplate with a groove cut, into which the mandibular incisors and cuspids could occlude. This vulcanite plate proved to be a great advantage, and the child was able to wear it without apparent inconvenience. It was a distinct aid to mastication.

One week later another plate was made which eliminated that part of the first one that covered the labial surface of the gums as far back as the region of the permanent first molars. This second baseplate proved to be of more service than the first one.

The third step was in the restoration of tooth function through the making of full maxillary and partial mandibular dentures. The mandibular denture was a type of cast, hard gold lingual bar, to which the teeth were attached with condensite. The clasp fitted the cuspid teeth, which had previously been covered with properly shaped overlays. The maxillary denture was first made on a swedge steel base and later reconstructed on a thin cast gold base. The little patient readily adapted himself to the use of these dentures. In fact, his only worries seemed to be that he might not get them back when they were removed from his mouth for cleaning.

In the case of this boy the mental and physical development has been going on steadily up to the present

time. The joints of the hands and fingers have become flexible and there is evidence of a marked gain in the coordinate functioning of the nervous system.

The general condition of the child may be classified as spastic paraplegia or Little's disease involving both upper and lower extremities. Even though luetic data are indefinite in this particular case, lues must be considered as the possible cause of the condition. It is the opinion of the neurologist that we may expect continued improvement up to a certain level, at which time the child will cease to progress and from which level he will eventually retrogress. From the standpoint of the neurologist the future of this case does not look hopeful, but if the present health and growth of the boy can be maintained until dentition is completed, the case will at least remain of record as an interesting study in the interception of malocclusion.

It must be remembered that the conditions written and talked about as preventable in the practice of dentistry are well established as deformative factors before the dentist or orthodontist is afforded the opportunity to apply the remedy. For that reason the term *interception* is more definite as to the nature of the work to be done than the word *prevention.*

The methods of interception that have been cited and illustrated at this time are by no means the only ones that may be applied by general practitioners of dentistry in overcoming deformative complications. The field for research and experiment in this department of dentistry is of vast extent, and apart from its humane aspect it is one of such absorbing interest and vital importance that it should entice the attention of every progressive dentist in general practice.

535 Jefferson Building

Psychological Research With the Elimination of Dental Fear as Its Object

By A. PORTER S. SWEET, D.D.S., Hornell, N. Y.

The fear of dental operations is perhaps the hardest of all things for the dentist to overcome. With some patients it is only a very slight dislike, not even a dread, while with others it goes to the opposite extreme, causing near-hysteria whenever a dentist is mentioned. Many times this keeps them from receiving any dental attention until driven to it by pain so intense that it overcomes their fear.

We all know that a suave, soothing, sympathetic personality exerted amid quiet, dignified office surroundings will work wonders with timid people. Another thing that has done a great deal of good has been the development of local anesthesia to its present high state of perfection. But for many people these things are not enough. They have an intense, instinctive fear of dental pain, so intense, in fact, that it persists even after they have had painless dental operations performed.

For some time it has seemed to us that the proper method of attacking this problem was through applied psychology. In order to do this, the first step was to learn something of the subject and then endeavor to apply the knowledge thus gained. Of course the science of psychology is of such magnitude that it was quite impossible to obtain other than a slight working knowledge of the subject in a short time, but as soon as possible a definite line of procedure was decided upon and is now being followed out.

This consists, in the main, of keeping a case history of all patients who seem to have any fear or dread of dental operations and from a careful study of the data secured endeavoring to treat the patient and, if possible, to overcome his fear. This is now being done and, while the results have been encouraging, it is still too early to make any report of them. However, it might be of interest at this time to present a copy of the case history and explain the way in which it is used, so that any one interested can carry on this work, which we believe to be of some importance.

The first section of the chart explains itself. It is merely the name and address of the patient, together with the age and sex. The I. Q. stands for Intelligence Quotient. Naturally it is impossible to give the patient any intelligence tests, but, on the other hand, a few minutes' observation and conversation with patients should enable one to rate them roughly as to average, above the average, or below the average. In marking on the chart the average is 100, bright people rate 105, very bright 110, and brilliant 115. In like manner those just under the average rate 95, dull 90 and very dense 85, with the rating of course up to the good judgment of the operator. In making this judgment a little study of the eyes will help a lot. The treatment of patients depends largely upon their intelligence, so that a little time spent in study at this point is not wasted.

Psychological Case History No._____

Name_____ Sex_____

Address—St._____ Age_____

City_____ I. Q._____

Symptoms— Saliva_____ Excitable_____

Pulse_____ Pupil_____ Perspiration_____

Reaction— Cowering_____ Clinging_____ Shrinking_____

Dodging_____ Huddling_____ Getting under cover_____ Running away_____

History_____

Diagnosis— Unlearned Irritation_____

Conditioned on Learning, (*a*) Experience_____ (*b*) from another_____

Readjustment dependent on growth_____

Treatment— Education_____ Soothing_____ Medicinal_____

Time_____ Suppression_____

Prognosis_____

The symptoms of fear can be observed very readily. A lack of saliva or mouth dryness indicates dread and fear. A person under the influence of fear is also excited. The pulse is stronger and more rapid, the pupil is dilated and the individual perspires more freely. In some cases of well suppressed fear the only indication is perspiration on the forehead and moisture on the palms of the hands.

The reactions of the individual to fear are even more easily noticed. They are all self-evident and should be recognized and checked with little difficulty. The intensity of the individual's fear

or dread of dental operations can be told from his reactions. In very mild cases there will be no reaction at all, while in the worst cases they will actually "run away" without giving the dentist an opportunity to render any service. A little study of the reactions and symptoms will go a long way in determining the intensity of the fear motive.

The history can be obtained by a few sympathetic questions about previous dental experiences, why they are afraid, etc. When the patient is a child, the parent will usually be able to give some very useful information.

In diagnosing it will be noticed that the fear stimuli fall into three classes: (1) irritating stimuli, not dependent on learning; (2) conditioned or associated stimuli, dependent on learning; and (3) stimuli or situations calling for sudden readjustment of the individual, dependent less on specific learning than on the general growth in knowing what is going on and participating in it. The first classification of unlearned irritation will probably seldom be used. About the only classification that will be used will be the second, conditioned on learning, although once in a while a case may be found that comes under the third class. It would be hard to tell, though, whether this case did not also come under the second heading to a certain extent.

Treatment depends upon the individual case, and it is well to study the patient while making out the case history, with the treatment to be used in mind. Education is certainly the best method of treating the patient. It is here that the importance of ascertaining the intelligence makes itself known. The educational efforts should be on a par with the patient's chronological age as well as his intelligence. To the adult the operator can give a brief, concise description of the nerve supply of the area and the nature of the method used to block the nerve supply. To the child he can give an explanation that is easy for him to understand. The operator should always try to soothe the patient as much as possible and will find this very effective. Medicinal treatment consists of giving such medicines as the operator has found efficient in deadening pain and quieting nerves.

Time is a great healer, and many fears will be outgrown as the person matures. While speaking of time, it is also very important never to give the impression of haste. Create the impression of having plenty of time, even though you take no more time than is absolutely necessary. Suppression is a powerful aid in those cases where the patient has a strong will, and you can enlist this strength in overcoming his weakness. Many people will suppress a fear of their own accord.

Prognosis requires no explanation. The condition of the patient at each successive visit is recorded, together with improvement or lack of improvement.

This, in general, constitutes the method being followed, and it is our hope that at some future time we shall be able to submit some interesting data that may be of assistance in overcoming that instinctive and unreasonable fear that some people have of dental operations.

Columbia "Service Clinic" Officially Condemned

On April 7, 1930, at the annual meeting of The First District Dental Society of the State of New York, the following resolutions were passed by a vote of 103 to 54.

RESOLUTIONS

Whereas, It is the inherent duty and accepted function of the organized dental profession to maintain at all times the highest possible devotion to the best public welfare; and

Whereas, It is, and always should be, the right and duty of the dental profession to guard its public-spirited efforts by keeping an ever watchful eye upon all educational institutions which prepare the future practitioner of dentistry; and

Whereas, It is of outstanding importance that the entire profession cooperate whole-heartedly with such institutions to maintain dental education, in the words of the constitution of the American Association of Dental Schools, "in full accord with the highest requirements of professional education in the public service"; and

Whereas, It is common knowledge that the College of Dental and Oral Surgery of Columbia University in the City of New York maintains a so-called "service clinic" in which graduate dentists, acting as salaried employees, operate upon so-called clinical patients under conditions similar to those of "dental parlors," now forbidden existence under the laws of the State of New York; and

Whereas, Members of The First District Dental Society of the State of New York, acting individually, have not succeeded in orderly efforts to bring about the eradication of this so-called "service clinic" at the Dental School of Columbia University;

Therefore be it resolved, That The First District Dental Society hereby records its opposition in principle and policy to the so-called "service clinic" of the Dental School of Columbia University; and

Be it further resolved, That The First District Dental Society, in its official representative capacity and with the best public interest as its sole aim, hereby pledges its utmost effort to prevent, by all proper means, the maintenance of non-teaching, non-research clinics in any dental educational institution in the State of New York; and

Be it further resolved, That copies of these resolutions be sent to the Dean and to each member of the executive faculty of the Columbia University Dental School; also to the President and to all members of the Board of Trustees of Columbia University, and to the Commissioner of Education and all members of the Board of Regents of the University of the State of New York.

DIGESTS

THE TREATMENT OF ACUTE OSTEOMYELITIS

By Leslie M. Fitzgerald, D.D.S.

While some claim that this disease can occur only in the long bones, yet the affection that appears in the mandible is sufficiently like it to merit the same name. It may be caused by bacteria, by excessive instrumentation, by the use of tissue-destroying agents, and by a combination of chemicals and bacteria such as the use of H_2O_2 in deep, infected pockets. It may be either primary or secondary, the infection occurring by way of the blood stream or by means of a break in the continuity of the soft tissues.

A peculiar pain is one of the earliest symptoms. It is persistent in one locality and does not spread, and there will not seem to be sufficient evidence to cause the complaint. As a rule the infection spreads rapidly and there is a general rise in temperature, weakness and loss of appetite. The white blood count is increased and at first the x-ray shows no change in the structure of the bone. The disease runs from three to eighteen months.

The first step in the treatment is to remove the cause and the second to try to prevent the spread of the infection by the use of ice-bags. When drainage has been established, hot irrigations with Dakin's solution, normal saline or S.T. 37, etc., are used every three hours. One of the most important factors in the treatment is the building up of the patient's resistance. Packings and dressings are to be avoided.

The organisms usually found are the staphylococcus, the streptococcus and the pneumococcus. Osteomyelitis can be differentiated from other diseases such as actinomycosis and sarcoma by x-ray and laboratory findings.—*The Dental Cosmos,* March, 1930.

THE PULPLESS TOOTH AND ITS TREATMENT

By Howard Temple Stewart, D.D.S.

The author presents a startling new method for the treatment and filling of root canals. He starts with the general surgeon who, in cases of bone infection, opens wide the tissues, keeps the wounds open for weeks at a time for drainage and then closes them when they are not entirely free from bacteria. These procedures are in direct contradiction to the technic used in root-canal work.

He states that in many cases putrefying debris is left in the canal, and that the only way to overcome this is to ream out the canal freely, opening wide both the canal and the foramen. This provides ample drainage and permits the swabbing out of necrotic material.

The canal is filled with an amalgam of two parts of gold foil to one part of

tinfoil, and no effort is made to keep the filling within the canal, the author stating that the tissues tolerate the metal and will regenerate. — *The Journal of the American Dental Association,* March, 1930.

Foreign Dental Literature

Edited by JOHN JACOB POSNER, LL.B., D.D.S., New York, N. Y.

CONCERNING IMPACTED MANDIBULAR THIRD MOLARS

By Drs. Otto Loos and Hermann Gross, Frankfort on the Main, Germany

The third molar must be considered in a class by itself. It has special technic and instruments for its removal, yet the underlying rules of extraction are the same. The soft tissue must be incised carefully and definitely and no tissue is to be sacrificed needlessly. In removing bone, hand gouges, burs and chisels are used. The bur is favored by the general practitioner because of his familiarity with it. It is preferred by many patients to the blows of the mallet and chisel.

The writer believes that the operator should use both mallet and chisel instead of having the assistant hold the chisel. He can then employ the right amount of force and cut exactly where he wants to. An advantage in using hand pressure consists in the freeing of one hand, which can be used to support the jaw, etc.

It is the opinion of the writer that there is more after-pain following the use of elevators and gouges in removing an impacted third molar than in those instances where the chisel and mallet are used. He cites a case of a woman dentist who had two mandibular impactions removed. On one side hand pressure and elevators were used and on the opposite side the customary chisel and mallet. She said that the pressure of the hand instruments was far less pleasant than the mallet and chisel, and that there was much more after-pain from the hand-pressure method.

The first step in removing an impacted third molar is not merely the exposure of the crown of the tooth. A goodly portion of the alveolar process as well must be revealed. The usual incision is distal to the second molar and over the imbedded tooth. Coming forward, the incision continues buccally down past the mesial of the second molar.

It is good surgery to suture wounds, following the removal of a third molar, where this will help to close up the field of operation. Despite all the care and precaution used in the work, there may be many complications. Some of these are trismus, osteitis, periostitis and lymphadenitis. A tooth may be removed on one side of the mandible, and, despite severe surgical intervention, the case clears up uneventfully. In the same mouth on the opposite side the corresponding tooth is removed and immediately gives rise to all sorts of disturbances and complications. The

cause may be looked upon as due purely to bacterial invasion. It is important to bear in mind the possibility of infection and guard against it. The mouth should be carefully cleaned and rinsed, and as far as possible the area of pericoronal infection in the third molar should be reduced to normal before attempting to remove the tooth. It is well to dress the socket lightly with iodoform gauze in all cases where infection has been present. Loos advocates the use of balsam of Peru flowed over the dressing as a protective and healing agent.

Warm applications are recommended after the operation to help healing. Sometimes at the beginning cold packs will help to prevent swelling. If the deeper structures are involved, then warmth is better suited.

It is often feasible to incise the soft tissues about a third molar and thereby relieve the local inflammation. This flap is easily infected and must be carefully handled. It should not be cut during an acute stage. The prognosis in the cases of temporizing with soft-tissue complications of third molars is not good, and there is usually a recurrence of the condition.

Sometimes the acute infection of the third-molar area demands an incision to release pus formation. When this stage has passed and the tissues are again normal, the tooth may be extracted. It is certainly advisable to remove the wisdom tooth at the first sign of pericoronal infection rather than to wait until the patient suffers from a fully developed infection of the flap.

Where trismus is present, the author shows that an extra-oral injection may safely anesthetize the area and relax the muscle tissues so that the mouth may be carefully opened. The needle enters from below the mandible and is carried up to the mandibular sulcus, where the solution is deposited.

Kantorowicz does not favor the removal of such teeth under general anesthesia. Other operators are opposed to the forcible opening of the jaws under a general anesthetic. The author refers to two years of successful handling of just such cases under nitrous oxid with favorable results.

Whether the extraction of a tooth is sufficient to drain a subperiosteal abscess or whether an incision is necessary, whether an abscess is to be opened first and the tooth extracted at some later day cannot be said definitely. It depends upon the particular circumstances of the case. It is known that severe mouth and cheek swellings follow in the wake of infections around the third molar. It is important to remember that a swelling following the removal of a tooth is not necessarily caused by such extraction. The infection may have already seized upon the soft tissues. — *Die Fortschritte der Zahnheilkunde,* February, 1930.

NOVOCAIN SUPRARENIN SOLUTION

By Dr. Hans Jugel, Berlin

The most used solution for securing local anesthesia is novocain suprarenin. The author prefers the tablet to the ampoule form, although he does not wish to go on record as to which is really the better. The advantage that leads him to the choice of the tablet lies in the fact that he can modify the

dosage to suit the individual case, which is hardly feasible in the ampoule system. The freshly prepared solution contains more or less Ringer's solution, whereby the strength of novocain and suprarenin is controlled. The author has worked out various tables showing how different percentages are obtainable, and what is the maximum amount of novocain to be employed within safe limits. It tends to show conclusively that the dangerous excess dose of novocain is so far beyond what the normal requirements of local anesthesia demand that it is almost foolproof with ordinary use. — *Zahnärztliche Rundschu,* January, 1930.

SPECIAL PATHOLOGY OF THE MOUTH

By Hans Moral, Rostock

This distinguished surgeon in the present article takes up some of the conditions met with in the mouth which are more or less serious, and two sections on dry socket and swellings in the floor of the mouth are of special importance. He considers the infected blood clot as the true source of after-pain following extraction.

The clinical evidence and picture are well known. About two days after the extraction the patient begins to feel pain in the area and complains of a bad taste in the mouth. The tongue alongside the infected socket shows a thick whitish-brown coating, and around about the socket there are seen an inflamed mucous membrane and gum, and the periosteum, bone and lymphatics are involved. On examining the socket a soft watery green mass is found, which is the infected blood clot. Sometimes the socket is quite empty and the denuded bone of the alveolus is visible. The thrombus has been infiltrated with putrefying bacteria. Since putrefying bacteria cannot live on dead material, they cannot be the cause of pain in the lymphatics.

The explanation lies in the fact that these bacteria which abound in the mouth become attached to the upper surface of the blood clot. Under ordinary circumstances they cannot gain a foothold, but when conditions are favorable, they serve to bring about decomposition with consequent dry socket. The walls of the alveolus are robbed of the protection of the blood clot, and the bacteria come in contact with the unprotected alveolus. While at first the bacteria cannot gain a foothold in living bone, they ultimately are able, together with the products of decomposition, to set up a severe reaction.

The treatment consists in reducing the number of bacteria through irrigation with antiseptic solutions, such as hydrogen peroxide, and the introduction into the socket of a piece of loose iodoform gauze. This keeps food and bacteria from the wound and helps to drain off exudates or pus.

There is no method at present whereby dry socket can be definitely prevented. The care of the mouth on the part of the patient is important in preventing this condition by the elimination of excess bacteria.

Swellings in the Floor of the Mouth

The severe conditions which follow in the wake of swelling in the floor of

the mouth have in the past placed these cases in the care of the general surgeon, but in recent years the dental surgeon has developed the proper and efficient handling of such matters, and they are rightfully in his province. The largest number of these swellings arise through infected teeth, and the dentist is in a position to see and recognize the attending symptoms. This condition is intended to cover those cases which tend to the formation of pus and are classified according to location. These are the spaces formed by fascia known as the submaxillary space, the submental space and, finally, the sublingual space. Swellings may embrace one of these spaces and at times spread until several are involved.

The danger of swelling in the floor of the mouth which does not show a tendency to form pus has led to the treatment which aims to change this swelling so that it does form pus. The author's observation has been that those cases which are incised too early and have disclosed no pus take a longer course than those which are treated with heat or cold until such time as pus is to be expected upon making the incision. Of course one should not wait too long before operating, but the proper judgment will dictate just when to go ahead. When the symptoms are really acute, then there is no time for delay. Staphylococci and streptococci are usually found in these conditions. Streptococcus viridans and hemolyticus are found. The staphylococcus pyogenes aureus leads usually to a mild infection, and the average case has a mixed infection of the viridans and hemolyticus. The anærobic bacteria are to be feared, as they find material on which to live in the depths of the wound. A deep incision will bring oxygen into the wound, with its fatal effects on the bacteria. This is one of the reasons held out for early incision as an aid in combating these anærobic organisms.

It has been found that 70% of cases of swelling in the floor of the mouth arise from carious teeth. The roots of the mandibular bicuspids and molars are often near the lingual surface of the mandible, in close relation to these submaxillary spaces, and it is a simple matter for infection to spread to these areas. A tooth with a live pulp cannot be the source of swelling in the floor of the mouth.

The extraction of a tooth in itself is not the cause of these swellings. It means simply that the condition was already in progress, and the swelling took place not because of the extraction but in spite of it.

The sublingual space and the submaxillary spaces are separated by the mylohyoid muscle. The sublingual space lies beneath the tongue above the bicuspids, and the submaxillary space is usually involved through infection of the second and third molars.

Wassmund has pointed out that the danger in these swellings in the floor of the mouth lies not in their spread toward the neck but in their spread toward the head. The swelling may involve the spaces on both sides of the mandible.—*Fortschritte der Zahnheilkunde,* February, 1930.

DENTAL ECONOMICS

Moving—An Economic Problem

By CARLETON CLEVELAND, D.D.S., Highland Park, Ill.

As the time draws near for the renewal of the lease, there comes to many a feeling of uncertainty as to whether or not to move. We are living in an age of restlessness superinduced by ambitious motives. There is always the thought that we may do better in Stoneville than here in Woodville, or that the East Side may offer better opportunities than the West Side. Every dentist, every physician, every business man, fights with that selfsame problem. Always there is the flaunting banner of "greater possibilities" waving over some other field. Every sales manager has a constant struggle to keep his salesmen sold on their individual territories.

To be sure, there are many reasons why a dental practitioner may desire to and should move—in fact, is sometimes forced to move. It may be that he is located in an old building that is to be demolished in order to make way for a more modern structure. Possibly he has been practicing in one locality of a large city for many years and because of changing conditions in the neighborhood many of his patients have gone to other sections of the city or into surrounding suburbs. In such a case the dentist may rightfully seek a more centralized point where his patients will be able to reach his office with less inconvenience. The state of health of some members of the dentist's family may make it advisable to move, even to a distant part of the country.

On the other hand, many professional men will move about from place to place in what seems a never-ending effort to find things "different." Granting that their intentions are laudable, nevertheless they all too frequently meet with new and greater disappointments. They fail to weigh the many economic factors entering into the question of moving—whether it is really the best thing to do, or what the consequences might be should the rosy outlook take on a dull, drab hue. They see, as it were, only the glowing sky in the east as the sun comes up over the horizon, and then too late, in what they supposed would be a pleasant day, they find themselves "out in the rain" with umbrella and rubbers at home.

If the present-day system of state board examinations had accomplished nothing else, it would go down in history as being a safety device, an economic barrier that has saved many a dental practitioner from making what might have been a "bad move." To be sure, these rigid regulations have doubtless worked a hardship on some, but in the main they have probably proved a "saving grace" to many a struggling practitioner, compelling him to stay in

his selected field and cultivate and develop it to the best of his ability. What might seem a hopeless locality can sometimes be made to bear much fruit by conscientious, faithful work on the part of the practitioner, if he will give his patients the best of which he is capable in diagnostic judgment, operative skill and patient, sympathetic care of the pain-worn and suffering individuals.

It is somewhat of a recognized fact among executives in charge of sales forces in commercial organizations that "a territory is as good or as bad as the man who works it." Is it not reasonable to consider this same thought as applicable also to the professional man, all things being equal? Of course there are differences in communities and in the financial and social status of the people in those communities. A dentist, for instance, who can converse only in the English language might not fare quite so well in a town or section made up in large part of foreigners, particularly if his competitors are men who can speak the foreign tongue.

On the other hand, given a community in which the condition above described does not exist to any great extent and where the population is fairly heavy and competition not too keen, the diligent, progressive dentist possessed of a good personality should have as good a chance there as anywhere.

But there seems to be a bit of the gipsy in each one of us. Always we want to be on the go—off to somewhere other than where we are. History is full of stories of migrations of peoples. Witness, for instance, the wanderings of the children of Israel out of the land of Egypt in search of a better place or in more recent times the migrations to the shores of the "New World." Even here the restless moving did not stop. There always has been a reaching out to see what could be found beyond the established frontier, a pushing ahead on and on into the "land of the setting sun."

Few there are among us who cannot number among our friends or acquaintances some one who moved to the big city or, tiring of city life, moved out into the country. They have gone South, they have gone West, they have crossed the northern border or gone to the metropolitan centers of the East. To be sure, some have succeeded even beyond their expectations, but, oh, how many have utterly failed or retraced their steps, possibly wiser but much poorer for their venture!

Indeed, this question of moving may well be looked upon as an economic problem. It should be well considered and the details entering into it weighed one against the other. Moving nowadays is a costly matter and is not to be entered into lightly or without due consideration. The "tempted one" may well devote a little careful thought to the various angles of the situation, maintaining a look-before-you-leap attitude before taking the actual plunge.

708 West Park Avenue

PRACTICAL HINTS

THIS DEPARTMENT IS NOW BEING CONDUCTED FROM THE OFFICE OF THE DENTAL DIGEST. TO AVOID UNNECESSARY DELAYS, HINTS, QUESTIONS AND ANSWERS SHOULD BE ADDRESSED TO EDITOR PRACTICAL HINTS, THE DENTAL DIGEST, 220 WEST 42D STREET, NEW YORK, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

CANKER SORES.—In your December *Practical Hints,* "G. G. G." asks for a remedy for canker sores.

If, as is generally supposed, these are due to stomach disorders and chiefly an acid condition, the disorder may be successfully corrected in many instances by neutralizing the acid. A tablespoonful of sodium bicarbonate to one-half glass of water taken frequently is often beneficial. In bad cases it is advisable to consult a physician.

For a local application to relieve the pain caused by the canker sore, I prefer a 50% solution of trichloracetic acid. First thoroughly dry the affected area. Make a swab with a small piece of cotton wrapped on an applicator, dip this in the acid and apply to the sore, being sure to reach the bottom of the crevice of the sore. Canker sores penetrate deep and must be seared or cauterized thoroughly to secure relief; use a rotating motion of the applicator. The tissues turn white wherever the trichloracetic acid touches, so care must be taken to confine the acid to the sore. This seared tissue exfoliates in two or three days and the canker sore disappears with it, provided the crevice of the sore has been completely cauterized.

The application of the acid is painful at the moment; however, it is the least painful of any agent I have tried. The pain ceases soon after all of the sore is cauterized. The relief afforded is very gratifying.

A. E. PERRY

Editor, Practical Hints:

Is there any chemical reaction between novocain solution and metal? That is, if a solution is sterile in a metal syringe, should there be any change in that solution?

F. E. S.

ANSWER.—If the novocain solution and the metal syringe are both sterile, the novocain will not be harmed by its contact with the metal for the short time that it is contained in the syringe.

Editor, Practical Hints:

I made dentures for a patient, full upper and lower. After all necessary minor adjustments were completed everything seemed to be all right. After about a month she developed a burning sensation in the roof of her mouth. I have relieved the palatine foramina, but

without relief. Her palate is absolutely free from inflammation from the denture. The burning sensation seems to be along the median line of the maxilla.

Any suggestions you have to make will be greatly appreciated.

J. H. C.

Answer.—When the burning sensation is not due to pressure on the nerve endings, it is sometimes caused by the roughness of the palatal surface. This, in a vulcanite plate, can be avoided by vulcanizing against tin-foil. Not infrequently it is very difficult to find the cause of the discomfort.

Editor, Practical Hints:

I have as a patient a young lady, twenty-two years of age, who suffers from time to time from inability to open her mouth more than a half inch. This condition, when present, is always noticed in the morning upon arising. It comes, therefore, at a time when she is unable to trace it to any particular act —unless it may be due to yawning too wide.

Neither massaging of the muscles in the region of the temporo-mandibular joint nor attempting to open the mouth gradually with slight pressure seems to help.

Small mouth films and lateral jaw plates do not disclose the presence of impacted teeth or any other pathological condition about the jaws.

This condition usually lasts for several days and suddenly clears up during the daytime. The patient describes the sensation as the bone clicking into position.

When the mouth is closed, the teeth articulate normally. However, when the mouth is opened as wide as possible, the mandible has a slight tendency to move to the right side, the side the patient feels is causing the trouble.

What do you suppose is the cause of this? And what treatment would you suggest to enable the mouth to be opened wide and prevent future occurrences?

A. A. L.

Answer.—The trouble may be due to infection, not necessarily situated in the teeth, or it may be entirely mechanical, and caused by the slipping of the head of the condyle out of position.

We shall be glad to publish your letter in the hope that some of our readers may be able to help.

Editor, Practical Hints:

I should like to have your opinion on the legal aspect of holding dental radiographs for which the patient has made full payment.

Is it legal or unlawful to hold your radiographs for record and refuse to deliver them to a patient when requested and when paid for?

Is it lawful or unlawful for a dental clinic of a dental school to refuse to deliver an x-ray to a patient who has paid for it, and who desires to go to a regular licensed practitioner?

If the dentist writes to the school, and requests them to send the x-ray, can they refuse?

M. T. R.

Answer.—We believe that it is the consensus of opinion that the radiographs belong to the dentist. They are simply a means of diagnosis, such as the explorer, mouth mirror or trans-

illuminating equipment. The patient pays not for the negatives but for the opinion that is formed from an examination of the films. Furthermore, the ability to offer negatives as evidence in court might be of the utmost importance.

It is customary to send a negative to the patient's physician or dentist on request, but it is poor policy to give x-rays indiscriminately to patients.

From this it will be seen that a dental school or clinic is quite within its right when it refuses to deliver x-rays.

Editor, Practical Hints:

A patient, male, middle-aged, has full upper and lower gold dentures. When speaking there is a large amount of whistling noise, especially when pronouncing letters like *s*. Is there any way of remedying this?

A. L. S.

ANSWER.—Not a few people with natural dentures hiss or lisp when they pronounce the letter *s* and similar characters. It is not infrequent to have this occur when dentures are first inserted, but it is usually overcome as the patient gets used to the dentures.

Making the upper denture as thin as possible and reproducing the natural rugae are aids in correcting this fault.

CORRESPONDENCE

The following letter was shown to us by Dr. William and, believing it to be a remarkably clear and concise statement of the status of preventive dentistry, especially as applied to school work, we secured permission from Dr. Mitchell to publish it.—The Editor.

AMERICAN CHILD HEALTH ASSOCIATION

370 Seventh Avenue, New York

November 27, 1929

Dr. Maurice William
22 West 74th St., New York

Dear Dr. William:

I have recently read your paper on *The Community Dental Problem versus The Dentists' Economic Problems** with great interest. It is rare to find so outspoken and frank a discussion of this urgent health program. I am impressed with the soundness of your reasoning, because my experience in the field of school health service has shown me the great lack of dental service for children, and contacts with the dental societies have revealed the tendencies in the profession which you have so well pointed out. It seems to me very important that the dental profession should recognize the problem as you have outlined it in order to avoid losing control of the situation. The growing recognition of the seriousness of the problem of the excessive cost of restorative dentistry sooner or later will lead to demands from the public. The present competition "for a share of the limited market" of restorative dentistry might at least be replaced by early care of children's teeth, and I believe, of course, that we may have prevention when we have a scientific basis for such practice.

I am so enthusiastic over your fine statement of the problem that I am anxious for one more step in your argument that seems to me essential. You state that Miller, Black, Howe, Hyatt and others have placed in your hands "the means of preventing dental disease." I wonder if I have failed to gather from the research of these men an understanding of how the dental profession can do for dental disease what the medical profession has done for smallpox and other diseases. I have a very great appreciation of the splendid contributions of the men you mention, and yet I have not found among them any consensus of opinion as to just what should be done for preventing dental caries. Of course it is agreed that prompt and early filling of children's teeth will thwart the extension of caries, and with close supervision by dentists and frequent examinations such treatment would no doubt do much to avoid the serious problems of restorative dentistry that you point out in

* Published in *The Dental Digest*, May, 1929.

your paper. I realize, too, that Howe and others have done much to show the relation of diet to dental caries, but I fail to gather from this research the clear understanding of diet that seems to me essential in order to prevent dental caries on a wide scale in children, or even to get the necessary specific individual advice for my own children. I might add that I do feel confident that all this research with animal experiments has given us a basis for other necessary research upon children that places us on the verge of real discovery. Now, as to prevention through prophylactic odontotomy, we still lack the real evidence of *prevention*. The evidence appears to be that because most of the caries occurs upon the surfaces where most of the pits and fissures are found prevention would result if we would fill the pits and fissures.

I am heartily in sympathy with you as to the need for a "preventive dentistry health service." Dentistry will continue to fail to gain the professional recognition that it should have unless mechanical restorative dentistry is replaced by prevention. It seems to me that your challenge to the profession is a challenge for research to find out how to practice prevention. Of course Dr. Gies has made it very clear in the Carnegie Report how little research has been possible in this field. On the other hand, there has been a great deal of promotion of certain practices that have been held more or less as panaceas for prevention without any adequate scientific basis for supporting them.

It is with these supposedly preventive practices that I have come in contact in school health work. The rapid increase in recognition of the incidence of dental disease in children and the seriousness of restorative dentistry has led health departments and public school officials to employ dentists and dental hygienists in increasing numbers. The effort and money expended by health departments and public schools to prevent dental caries in school children have been increased so rapidly in the last fifteen years that one might expect that sound health policies were already accepted by the dental profession. But numerous surveys of what is being done by schools and health departments indicate clearly such a wide variety of procedures that it is evident that there is no agreement as to what kind of policies are preventive. The evidence of the records of the best of these programs indicates merely that none of the school programs can stop the ravages of dental caries, and, whatever procedure is followed, the best accomplishment shows only a reduction in the number of unfilled cavities, but there remains an obvious continuance of caries and the need for continued filling of cavities. I know of no real evidence of prevention more than the reduction in the extent of caries through actual contemporary fillings, but much more prevention is needed.

All persons concerned with school dental health problems give lip service to prevention, but I am not convinced that all such can be right, that their various programs are preventive. My impression has been that the real trouble has been that more research is needed to carry us to a point where we can agree upon *what is prevention of dental caries*.

I have taken the pains to make these comments at some length because I feel

that your analysis of the problem indicates so clearly your interest and thought about this problem and, in my position with reference to school health problems, I am very much in earnest about learning from the profession what should be done by the public health and public school groups.

Yours very sincerely,

(*signed*) Harold H. Mitchell, M.D.,
Medical Director, School Health Study

[ERUPTION OF TEETH]

The comparatively new concept that human teeth normally continue to erupt, at varying rates, throughout life has been demonstrated in histological specimens by the presence of bundle bone and epithelial rests far from the regions of the apex. Clinically this has been more difficult to show for want of a suitable fixed point from which to take measurements. In cases of shortened teeth, because of the inward growth of bone in the resorbed areas along the sides of the root, one tooth is securely held in the alveolar bone while the remaining denture continues to erupt.

—WILLMAN.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All communications should be addressed to Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42d Street, New York, N. Y.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT-CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR GREATER EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE. YOU MAY HELP MANY GIRLS WHO ARE BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. PERHAPS YOU NEED HELP NOW. WRITE TO ELSIE PIERCE—SHE WILL HELP YOU.

Dear Miss Pierce:

I have been working for a dentist for two years and am "on the job" every day, putting in eight hours with a half-day off each week. I keep the office clean and spotless, sterilize all instruments, keep the accounts and books in order, help with gold-foil fillings, make inlays, rebase plates, repair dentures, help with impressions, local anesthesia, surgical operations and extractions and give gas for all gas extractions. I care for the bad cases after extractions, such as spraying the sockets, replacing dressings or painting the area. I have treated patients with Vincent's disease very successfully. I take x-ray pictures and develop the films, mix amalgams, porcelains and cements, and do many other things too detailed to mention that keep the office in smooth running order.

Now, I wonder if you could give me an idea as to what my services are worth in a large office with two chairs and a big practice in a locality where there are less than a dozen dentists, as I believe that I get very poor wages, considering my experience and the work that I do. I read your answers to the problems sent you, and some have helped me a great deal.

F. Q.

ANSWER.—We receive a number of inquiries regarding what we consider adequate salaries for certain stated services rendered. To these we are forced to make the same answer, that is, that we know of no set standard or scale for the remuneration of professional service such as is dispensed in a dental office by a competent assistant. As we have stated time and time again, the salaries paid the assistants depend entirely upon the willingness of the dentists to pay for the service rendered. Some dentists recognize that good service is worth good pay; others seem to desire as much as they can get for as little as they can pay. We believe that in time the dental profession will come

to realize that it cannot have exceptional service unless it is willing to pay for it, just as other people in any business or profession have learned that capacity and brains must be adequately paid for. Of course we realize fully that in the meantime this does not help the assistant who has the problem to face at the moment, and the only thing we can suggest is that she talk matters over frankly with her employer, showing him that with his volume of business, which she helps to create, she is entitled to a just compensation. Living expenses are the same for every one when it comes to necessities—one must pay for lodging, food and clothing—and an assistant is not furnished these things gratis or at a reduction because she is an assistant. If your frank talk does not bring results, secure a position where your talents will be appreciated and recognized.

And now a word of advice! It is not within the province of the assistant to do some of the things you say you are doing in the mouth, such as the after-care of extractions, surgical operations, and the treatment of Vincent's disease. You have no license to practice dentistry, and we advise you to discontinue all such operative procedure. We are surprised that the dentist would permit you to do those things.

Every dentist knows that his assistant cannot practice any part of dentistry, and no assistant should ever consent to do so, as she is liable to arrest, imprisonment and fine. If the assistant will take care of all the details of office procedure outside the practicing of dentistry, she will have plenty to do and need not indulge in illegal practices. If she does her work thoroughly, the dentist will have time to do those things which he alone should do. We warn all dental assistants and urge them to be honest with themselves and the profession they serve.

Dear Miss Pierce:

In answer to *E. M.*, March 1930 issue of The Dental Digest, I want to say that I am very much surprised at the question. The average good maid receives from $10.00 to $15.00 a week in this section; the dental assistant begins at $18.00 and increases to $22.00 or $25.00 as her efficiency is demonstrated. If she is a dental nurse and can assist in the laboratory, she will often receive from $30.00 to $40.00 a week. It would probably be impossible for her to go beyond that, as the dentist himself does not receive high remuneration after all expenses are paid. If the nurse actually brings in money by her own work, she can and usually does receive compensation in proportion to her earnings.

Boston.

Answer.—We are interested in "Boston's" reply and feel sure that our readers will be. May we just say that maids also receive their food and lodging, which we believe would amount to at least the equivalent of the salary quoted above. By *dental nurse* we take it that our correspondent means the dental hygienist, so this would not apply to the assistant. You see we cannot base our opinion on one locality, as "Boston" is doing. We must consider averages of conditions in every part of the country, and these vary greatly.

Dear Miss Pierce:

In the March 1930 issue of The

DENTAL DIGEST, *E. M.* asks: "Why do dentists expect young women to work for less than they pay their housemaids?" Statistics show that 75% of the dentists in the United States have a net income of less than $50.00 a week, therefore I suspect that just so many have to get along without housemaids. My father was a dentist for forty-five years, and I well know how my mother economized, and with no maid either. Perhaps the housemaids are better organized or at least not so simple as dentists. Dentists have often cut prices to the bone for fear of losing a patient to a competitor.

Most men marry as soon as they are out of college and, with increasing expenses of a family and a practice, yet so young as to provide only a living income, they accept any fee rather than see a patient walk out "unsold." This creates a vicious circle which makes it impossible for him or his neighbor dentist to obtain fees permitting them to live as well as the man who collects their ashes. When the public is educated to the appreciation of dental service and is willing to pay adequate fees for it, then dentists may be able to walk and act like men instead of groveling in the mire of professional jealousy and price-slashing for fear of losing a patient that they might better lose.

Let me advise *E. M.* that assistants are worth much more salary than they get, and perhaps it is their duty to help educate the patients to a greater appreciation of our work.

D. D. S.

Dear Miss Pierce:

Please answer the following:

Should an assistant wear jewelry in the office? I had a warm discussion about this with several assistants in our Club, and we said we would ask your opinion.

H. M. L.

ANSWER.—A general reply to your question would be "no," but let us qualify. If by jewelry you mean fancy beads, pins, earrings, etc., they would be decidedly out of place with your white uniform and cap and should never be worn while you are on duty. If you mean a ring or a wrist watch, the former a wedding ring or an engagement ring, the latter a timepiece for the timing of the various duties which require accurate timing, then I should say that these are quite permissible. Professional service demands dignity, and this can be achieved only with proper garb to supplement your poise and ability.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

A regular meeting of the Educational and Efficiency Society for Dental Assistants, First District, New York, Inc., was held on the evening of March 11, 1930. John J. Posner, D.D.S., presented a very interesting address on *Local Anesthesia and the Dental Assistant*. Miss Clare Terwilliger, R.N.,

Executive Secretary, Committee on Community Dental Service, New York Tuberculosis and Health Association, spoke on *Dental Clinics in New York.*

At the regular meeting of the Clinic Club, on March 17, Mr. C. A. Dorsey gave a lecture and demonstration on the cleaning and care of handpieces. Members of the Clinic Club presented table clinics on Secretarial Assistance and Economy Suggestions before the Allied Dental Council on March 27. The demonstration on Secretarial Assistance covered various systems of filing, bookkeeping, records, recall for prophylaxis, collection letters, and types of stationery. The Economy Suggestions Exhibit included original ideas for improved office procedure. Clinics are being arranged to be given as part of the demonstrations on dental assisting to be presented at the Hotel Commodore, New York, on May 13-16, on the program of the Dental Assistants Association of the State of New York. The next meeting of the Clinic Club will be held at the office of Dr. S. Eolis, 1475 Broadway, New York, on May 19, 1930, at 7:45 p. m.

The class in Parliamentary Procedure has been successfully completed after five sessions, during which the proper parliamentary procedure in the conduct of regular meetings and committee meetings, the making of motions, etc., was studied. On March 26 a class on the Development of Radiographs was given by Dr. Voorhees and Mr. H. Ingram of the Eastman Kodak Company of Rochester, N. Y. The attendance was large, and much valuable information on this phase of dental assisting was gained by the members.

The next meeting of the Educational and Efficiency Society will be held on Tuesday, May 13, 1930, at 7:30 p. m., when the election of officers will take place and the reports of officers and committee chairmen will be read. As this is the annual meeting, it is open to members only.

The Society meets regularly on the second Tuesday evening of each month, October to May, inclusive, at the Academy of Medicine, 2 East 103rd St., New York, Regular meetings, except the annual meeting in May, are open to all, and a cordial invitation to attend is extended to the members of the dental profession and to their assistants.

My Ideal Dental Assistant*

By Phoebe Hayes, Atlanta, Ga.
Secretary, The Georgia State Dental Assistants Association

This paper deals with the Ideal Dental Assistant and her splendid achievements in this restless and progressive age.

My ideal assistant has kept pace in the interesting procession of advancement and evolution in dentistry, and

* Read before the Fifth Annual Meeting of the American Dental Assistants Association, Washington, D. C., October, 1929.

we glory in her progress when we recall the crudeness of the position of the assistant to the dentist as it was filled by the little colored boy or the decrepit old servant or the uneducated maid or office girl of the past, for it is from these humble and lowly stations that she has grown to be an essential part of every well regulated dental office.

My ideal assistant gives thought, much thought, to the profession because she realizes that, notwithstanding the progress and improvements made, perfection has not yet been reached and can hope to be reached only with greater knowledge as a basis. Every effort is fraught with good will as she searches for methods to elevate the calling, for she has visions of near perfection and with them come moments of exaltation as she strives laboriously to reach the goal. My ideal assistant has wrought a change in the entire aspect of the dental office and has brought to it a refinement and grace which did not exist before her advent, for what ever concerns her or improves her status affects in a similar way the practice of dentistry.

Preparedness is stressed in the ideal assistant's daily routine office work. Everything is kept in absolute readiness to meet whatever emergency arises. She has the ability to serve with intelligence and capability, her aim being to help and uplift suffering humanity. With pride in her immaculate apparel she pries into every nook and corner of the office and insists upon everything being kept neat, tidy and with perfect sanitation. She is alert to every little detail, the arrangement of the furniture, the hanging of the pictures, the appearance of the curtains and drapes, the freshness of the flowers, the up-to-dateness of the periodicals, etc.

The ideal assistant is tactful and courteous with patients, as well as attentive to the operator and his many needs. Alertness to anticipate the needs of every operation is very essential, for, remember, she is the dentist's silent partner and keeps one step ahead of his operations.

One of the most essential qualities to be desired in the dental assistant is loyalty—loyalty to her profession, loyalty to her coworkers and loyalty to the beautiful inspiration of helpful service to humanity. She possesses the allegiance that cultivates steadfastness of purpose, that allegiance which guards preciously her employer's affairs and safeguards her own principles of honesty. Another important quality is absolute efficiency; in other words, the ability to perform all tasks effectually. It has been said, and I think justly so, that to be an ideal dental assistant is a very great accomplishment, for one must be a courteous hostess, a good housekeeper and an efficient business manager, as well as capable of taking stock of one's own thoughts and actions through life. Dr. Kells paid the assistant a great compliment when he said, "She gives tone and changes the atmosphere of any dental office for the better." Her tactful, courteous, impersonal, professional manner lends dignity to the office and to the profession, and at all times she strives honestly and conscientiously to exercise a pleasing manner and personality so that she may be successful in one of the great problems of the dental profession—that of placing patients at ease by inspiring confidence.

The ideal assistant possesses, by all

means, self-control and deports herself with quiet dignity, remembering that the doctor has entrusted to her the guarding of his professional honor and the upholding of the standards by which strangers judge his office discipline. She studies daily the effect of her manner and bearing upon those with whom she comes in contact and strives patiently by tone of voice, expression of face, manner of walking and general deportment to keep every one cheerful and happy, thereby, in a measure at least, eliminating the pain of anticipation.

A psychological survey of self has given this ideal professional woman confidence and assurance in her ability to serve efficiently and willingly. She is tactful and resourceful, for so gently does she touch upon the harp of emotions that the chords blend harmoniously with every thought and effort of her coworker, the dentist. Knowledge of the results of such service has given her a pleasing personality, which is a very great asset and one that is more to be desired than silver and gold, and it often wins when nothing else will. This she has gained through the study of humanity and a modern application of the golden rule, for when she sacrifices she does it with grace and dignity.

In spite of her trials and tribulations she has overcome many obstacles; she has become master of her emotions and made for herself a place of usefulness in this great universe. She has relieved the dentist of many petty details of routine work and enabled him to devote more time to the scientific and technical problems of his practice.

Since the ideal is abstracted from the real, it is quite natural for one to presume that the ideal dental assistant is the reflex of that visualized temple of dreams described by our beloved National President, Juliette A. Southard, in her presidential address delivered at Louisville, Kentucky, in 1925.

With these facts in view, I think you will agree that the ideal dental assistant is giving to the world an unselfish and helpful assistance and is a product of modern times.

619 Grant Building

A New Dental Assistants' Society

On January 23, 1930, the dental assistants of Moose Jaw, Sask., formed an organization to be known as the Dental Assistants' Society, and at this meeting the following were elected to hold office:

Honorary President—Mrs. E. A. Horne
President—Vivian Busby
Vice-President—Helen Johnston
Secretary-Treasurer—Olive Howarth

It was decided that the Society should meet on the second and fourth Thursdays of each month.

At the second meeting, on February 13, Dr. R. H. McDougall was the speaker on the subject, *What a Dentist Expects of an Assistant*. A committee was appointed at this meeting to outline a program for the coming months.

The third meeting was held on

February 27, when a study was made of the various instruments with which a dental assistant should be familiar.

At the fourth meeting, on March 13, Dr. W. J. McCauley spoke to the assistants on *What a Dentist Expects of an Assistant in the Waiting Room and in Receiving and Dismissing a Patient.*

The dental assistants of Moose Jaw are very much interested in the meetings and are finding them exceedingly helpful in their chosen work.

[THE DENTAL ASSISTANT]

What has been accomplished in the past five years has been made possible by the hard work and persistent efforts of the dental assistants, with the personal interest of and the guidance of leaders of the dental profession. Contrary to the belief of certain people, the majority of dental assistants have ideals and they also have brains, and those women among them who have given years of service to the dental profession yearn for the day when the dental profession in turn will acknowledge their loyalty and honesty of purpose.

—SOUTHARD.

BOOKS RECEIVED

A BOOK MAY BE AS GREAT A THING AS A BATTLE—DISRAELI

Necrotic Gingivitis, by Harold Keith Box, D.D.S., Ph.D., Research Professor of Periodontology, Faculty of Dentistry, University of Toronto.

This monograph is a most thorough study of that disease commonly called Vincent's angina or trench mouth, the incidence of which seems to be steadily on the increase.

The signs and symptoms are first taken up, followed by a general description of the course of the infection. The author then describes the etiology, histopathology and treatment.

The booklet should be of special interest to the general practitioner, who, in the majority of cases, is the first to have an opportunity to treat those having this disease.

59 pp., with 18 illustrations. Toronto, Canada: The University of Toronto Press, 1930.—A. M. J.

Periodontal Diseases, by Arthur H. Merritt, D.D.S., F.A.C.D., F.A.A.P.

A book by Dr. Merritt needs little in the way of recommendation. From the beginning he has been associated closely with the specialty of periodontoclasia and can speak with authority on the subject.

After a brief description of the tissues involved, the various affections are taken up and their etiologies and treatment described. There are chapters also on instrumentation, surgical treatment and post-operative care.

The author stresses the necessity of the cooperation of the patient if the case is to reach a favorable conclusion, and he points out the assistance that can be gained from intelligent home care. He states also that, except in a general way, the prescribing of a diet should be left to the patient's physician, since he is better qualified to do this work.

Not a great deal of emphasis is laid on the grinding of teeth for the adjustment of traumatic occlusion, though the author states that this procedure is frequently necessary. In the treatment of periodontoclasia his chief reliance is placed on instrumentation, which is done mostly with curettes, since these give him a keener sense of touch and cause less trauma.

This book is very complete, covering as it does the diagnostic, operative, post-operative and economic sides of the subject, and can be recommended to the student, the general practitioner and the specialist.

276 pp., with 64 illustrations and index. New York, N. Y.: The Macmillan Company, 1930.—A. M. J.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

The girl who used to ask if anyone had a pin now wants to know who has a match.

(Housewife)—My husband just loves canned food.

(Friend)—Well, I'm not much of a cook, either.

A Frenchman is asking for a divorce, saying he was in a trance when married.

"Stand back there, fellers, stand back! I'll let you know if he gets one."

(Officer)—A flag of truce has arrived here, your Excellency.

(His Excellency)—What do these revolutionists want now?

(Officer)—They would like to exchange a couple of generals for a can of condensed milk.

"Yes, sir," panted the new shepherd, "I got all the sheep in, but I had to run around like blazes to get those lambs."

"Lambs?" said the boss. "I have no lambs. Let's see what you got." Looking into the shed the owner saw fourteen excited jack rabbits.

A doctor attended an old Scotch lady who was suffering from a severe cold. "Did your teeth chatter when you felt the chill coming over you?" asked the doctor.

"I dinna ken, doctor; they were lying on the table about that time."

A Chicago man was just back from New York, and was telling about the intelligent floorwalkers there. "I stepped up to one," he said, "and asked him where to get a present for my wife. And that man asked me just one question. 'How long have you been married?' I told him twenty years, and he says right quick, 'Bargain counter to the right.'"

(College Girl)—Well, if you studied botany, suppose you tell me what it is that turns green first in the Spring.

(Business Boy)—Christmas jewelry.

About this time of year sap begins to run in sugar maple trees and poets. Grass turns green and livers torpid. The wan winter sun faintly smiles, and in the Latin Quarter, Greenwich Village and Soho, painters and sculptors and scribblers crawl to their dormer windows to thaw inspiration in the balmy effulgence of the vernal season.

Some people are so narrow-minded that they can look through a keyhole with both eyes at the same time.

(Skag)—My girl is a hot baby; she held an egg in her hand and hatched out two chicks from it.

(Chuck)—That's nothin'. My girl walked up to a tree and kissed it; yes, sir, it took thirty men to put out the forest fire!

A Child's Idea of Tonsillectomy

Mary, age 4, when asked to relate her recent experience in the hospital, gave the following description: "Well, when my mother and daddy left me, they took me to the kitchen. There were a whole lot of nurses there, and they all had their nightgowns on. And pretty soon Dr. Jones and Dr. Brown came in and they had their nightgowns on too. Then Dr. Jones gave me something nice and sweet to smell, and they punched me in the nose and we all went to sleep."

(Father—awaiting news)—Well, nurse, will it use a razor or a lip stick?

A freshman was spending Saturday afternoon on a farm, the home of his best girl, and the scenery filled him with romance. As they walked through a pasture, he noticed a cow and a calf rubbing noses.

"Such a loving sight," said he, "makes me want to do the same."

"Go ahead," said the girl, "It's pa's cow. He won't care."

"Why are you so opposed to my marrying Jim?" demanded the daughter indignantly.

"In the first place," declared her dad, "you are not strong enough to take in washing and you don't know anything about keeping boarders, and, in the second place, my salary isn't large enough to stand another lazy son in the family."

What the Kiddies Now Know

In roadways I must never play,
I have no legs to give away;
I have no arms that I can spare,
To keep them both I must take care.

Cornstalks are to be used to make gas for lighting small cities. While the corn itself, we suppose, is being saved so that the people of the big cities can get lit up.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of The Dental Digest
at New York, N. Y.

Published monthly
for April 1, 1930.

State of New York, } ss.:
County of New York, }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Seeley Vander Veer, who, having been duly sworn according to law, deposes and says that he is the Assistant Secretary of the The Dentists' Supply Company of New York, Publishers of The Dental Digest, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

NAME OF	POST OFFICE ADDRESS
Publisher, The Dentists' Supply Co. of New York	220 West 42nd St., New York, N. Y.
Editor, George Wood Clapp	New Rochelle, N. Y.
Managing Editor, George Wood Clapp	New Rochelle, N. Y.
Business Manager, L. W. Dunham	New Rochelle, N. Y.

2. That the owners are:

The Dentists' Supply Co. of New York	220 West 42nd St., New York, N. Y.
The Amalgamated Dental Company, Ltd.	5-12 Broad Street, London, England
Lewis L. Fawcett	1347 Dean St., Brooklyn, N. Y.
Leroy Frantz	Davenport Neck, New Rochelle, N. Y.
Gertrude L. Frantz	221 Cheyenne Road, Colorado Springs, Colo.
Viola F. Good	45 Pintard Ave., New Rochelle, N. Y.
Dean C. Osborne	839 St. Marks Ave., Brooklyn, N. Y.
Sade E. L. Osborne	839 St. Marks Ave., Brooklyn, N. Y.
John R. Sheppard	155 Riverside Drive, New York, N. Y.
John R. Sheppard, Trustee for John R. Sheppard, Jr.	220 West 42nd St., New York, N. Y.
Ruth A. P. Sheppard	155 Riverside Drive, New York, N. Y.
Ethel F. Tomb	167 Lake Ave., Newton Centre, Mass.
George H. Whiteley	905 South George St., York, Pa.
George H. Whiteley, Jr.	121 W. Springettsbury Ave., York, Pa.
J. Osborne Whiteley	905 South Beaver St., York, Pa.
Lillian S. Whiteley	905 South Beaver St., York, Pa.

The Amalgamated Dental Company, Ltd., is a corporation organized under the laws of England, with an authorized capital stock of £2,850,000, ownership of which is scattered over a considerable part of Europe and includes a long list of names unknown to us, and probably a number of banks and other corporations.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

THE DENTISTS' SUPPLY COMPANY OF NEW YORK,
Seeley Vander Veer, *Asst. Sec'y.*

Sworn to and subscribed before me this 21st day of March, 1930.

[Seal] Emilie S. Schopp
Notary Public, Westchester County
Certificate filed in New York County
Clerk's No. 991, Register's No. 1-S-687 My commission expires March 30, 1931.

FUTURE EVENTS

THE ALUMNI DENTAL SOCIETY OF THE PHILADELPHIA DENTAL COLLEGE AND TEMPLE UNIVERSITY DENTAL SCHOOL will hold its annual meeting in Philadelphia, Pa., May 5, 1930, the day before the annual meeting of the Pennsylvania State Dental Society begins in Philadelphia.

At 10:30 a. m., at the college building at 18th and Butterwood Streets, I. Norman Broomell, D.D.S., will speak on the topic *Tempus Fugit*. Following luncheon, there will be the unveiling of busts and memorial tablets of Dr. Russell H. Conwell and Dr. J. E. Garretson on the campus. In the afternoon there will be an auto tour of the Temple University grounds and buildings, followed by a baseball game at the Temple stadium. A buffet supper will be served at the Dental School, and, in celebration of the sixty-eighth anniversary of the Dental School, a smoker, to which the undergraduates are invited, will be held in the Upper Amphitheatre.

This should prove a grand beginning for the new Temple dental graduates and should be an incentive to bring back the older men to Philadelphia to renew acquaintances and friendships and to attend the Pennsylvania State Dental Society Meeting.

RAYMOND T. WYCKOFF, D.D.S.,
Chairman—Journal and Press,
1447 North 17th St., Philadelphia, Pa.

THE MASSACHUSETTS DENTAL SOCIETY will hold its annual meeting at the Copley-Plaza Hotel, Boston, Mass., May 5-9, 1930.

THOMAS K. ROSS, *President,*
280 Main St., Fitchburg, Mass.

PHILIP E. ADAMS, *Secretary,*
236 Newbury St., Boston, Mass.

THE KINGS COUNTY DENTAL SOCIETY will hold its annual meeting at the Building of the Medical Society of the County of Kings, 1313 Bedford Avenue, Brooklyn, N. Y., on Thursday, May 8, 1930, at 8:30 p. m.

There will be the election and installation of officers.

Prof. Edward Howard Griggs, President of the Department of Philosophy, Brooklyn Institute of Arts and Sciences, will speak on *A Philosophy of Life for the Present Age.*

THE PSI OMEGA FRATERNITY, New York Alumni Chapter, will hold its annual banquet at the Hotel Commodore, New York, on May 10, 1930. Members of Psi Omega attending the New York State Meeting are cordially invited. For reservations, address

CLYDE H. SCHUYLER, D.D.S.,
576 Fifth Avenue, New York, N. Y.

THE VIRGINIA STATE DENTAL ASSOCIATION will hold its next meeting in Richmond, Va., May 12-14, 1930.

THE NEW YORK GRADUATE CHAPTER OF THE SIGMA EPSILON DELTA FRATERNITY has arranged for headquarters at the Hotel Commodore, New York, during the New York State Dental Society Meeting, May 12-16, 1930.

MITCHELL L. ROSENSON, D.D.S., *Master*
EDWARD LUSTERMAN, D.D.S., *Scribe*
185 West End Ave., Manhattan Beach, N. Y.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its sixty-second annual meeting at the Hotel Commodore, New York, May 12-16, 1930.

Dr. Thomas C. Swift, 1 Park Avenue, Mt. Vernon, N. Y., is Chairman of the Exhibit Committee; Dr. Harvey J. Burkhart, 800 East Main Street, Rochester, N. Y., is Chairman of the Program Committee; and Dr. J. W. Schelpert, 30 Cottage Avenue, Mt. Vernon, N. Y., is Chairman of the Clinic Committee. Any information regarding these departments should be addressed directly to the chairmen of the committees.

The first two days of the meeting will be devoted to educational clinics, and the following subjects will be covered by the teachers designated:

Root Canal Therapy, Guy P. Bannister, Cleveland, Ohio; Arthur B. Crane, Washington, D. C.

Operative Dentistry (*Inlay*), W. Elliott Taylor, Frank Cole; Herbert S. Bailey, New York, N. Y.

Operative Dentistry (*Amalgam*), William R. Pond, Rutland, Vt.

Operative Dentistry (*Gold Foil*), LeRoy L. Hartman, New York, N. Y.
Ceramics, William J. Meier, H. S. Both, New York, N. Y.
Removable Bridgework, S. Marshall Weaver, Cleveland, Ohio; Milton Cohen, New York, N. Y.
Fixed Bridgework, James K. Burgess, New York, N. Y.; Emory C. Thompson, Buffalo, N. Y.
Clasp Attachments for Partial Dentures and Removable Bridgework, Forry R. Getz, Lee G. Pollock, New York, N. Y.
Partial Denture Construction, Geo. P. Phillips, Boston, Mass.; Clyde H. Schuyler, New York, N. Y.
Full Denture Construction, Arthur T. Rowe New York, N. Y.; Frank A. Fox, Philadelphia, Pa.
Dietetics, Sherman L. Davis, Indianapolis, Ind.
Diseases of the Mouth and Their Treatment, J. L. Appleton, Jr.; James N. Aiguier, Philadelphia, Pa.
Periodontia, T. B. Hartzell, Minneapolis, Minn.; Harold J. Leonard, New York, N. Y.
Orthodontia, under direction of Joseph D. Eby, New York, N. Y.
Radiography and Photography, Ralph S. Voorhees, Rochester, N. Y.
Oral Surgery, Harold S. Vaughan, Henry S. Dunning, Adolph Berger, Leo Winter, Douglas B. Parker.

On the literary program there will be contributions by George B. Winter, St. Louis; John V. Mershon, Philadelphia; Thomas B. Hartzell, Minneapolis; Sherman L. Davis, Indianapolis; J. L. Appleton, Jr., Philadelphia. There will be important reports from the Scientific Committee and also from the Bloomingdale Hospital of New York.

A banquet will be held on Thursday evening, May 15th.

There will be general clinics on Friday morning, May 16th.

During the time of the meeting, sessions of the New York State Dental Hygienists Association and of the Dental Assistants Association of the State of New York will be held.

The Executive Council will convene on Tuesday, May 13th, at 2:30 P. M.

WILLIAM C. FISHER, *President,*
A. P. BURKHART, *Secretary,*
57 East Genesee St., Auburn, N. Y.

THE DENTAL ASSISTANTS ASSOCIATION OF THE STATE OF NEW YORK will hold its second annual meeting at the Hotel Commodore, New York, May 13-16, 1930. An interesting and educational program has been planned, and a cordial invitation to attend is extended to the members of the Association, dental hygienists and members of the dental and medical professions.

For further information, address

MRS. ZOA H. DICKHAUT, *General Secretary*
344 Woolworth Bldg., Watertown, N. Y.

THE DENTAL HYGIENISTS ASSOCIATION OF THE STATE OF NEW YORK will hold its Tenth Annual Meeting at the Hotel Commodore, New York, May 13-16, 1930. Members of the dental profession, dental hygienists and dental assistants are cordially invited to attend the sessions during these days. An interesting literary and clinical program will be presented which should be particularly stimulating and helpful to the hygienist. Both members and nonmembers are urged to be present at this anniversary meeting. Drs. Alfred Walker, Marion Lerrigo and Rose Schwartz will be included among those on the program.

A TESTIMONIAL DINNER AND DANCE will be tendered to M. HILLEL FELDMAN, D.D.S., by his friends in the profession of dentistry at the Hotel New Yorker, on Saturday, May 17, 1930, in appreciation of his many years of teaching in the field of anesthesia and exodontia.

EDWARD E. LEBWITH, D.D.S., *Secretary,*
760 Mott Avenue, New York, N. Y.

THE SOUTH CAROLINA STATE DENTAL ASSOCIATION will hold its sixtieth annual meeting in Columbia, S. C., May 19-21, 1930.

N. W. MACAULAY, D.D.S., *Secretary,*
Medical Building, Columbia, S. C.

THE MISSOURI STATE DENTAL ASSOCIATION will hold its annual meeting at the Hotel Jefferson, St. Louis, Mo., May 19-22, 1930.

An interesting program is being arranged, and we invite the entire dental profession to meet with us.

THE ONTARIO DENTAL ASSOCIATION will hold its sixty-third annual convention at the Royal York Hotel, Toronto, Canada, May 19-22, 1930. A very fine program of essays and clinics has been arranged.

Ethical dentists of Canada and the United States are invited to attend as guests of the Ontario Society.

FRED J. CONBOY, *Sec'y-Treas.*
Parliament Bldgs.
Toronto 5, Ont., Canada

EXAMINATION FOR APPOINTMENT IN THE ARMY DENTAL CORPS

An examination of applicants for appointment as First Lieutenants, Dental Corps, Regular Army, will be held within the continental limits of the United States on May 19-24, 1930. Examining boards will be convened at Washington, Denver, San Francisco and San Antonio. A circular of information concerning the Army Dental Corps may be secured by writing to the Adjutant General, United States Army, Washington, D. C. Applications for permission to take the examination should be addressed to the Adjutant General, U. S. Army, Washington, D. C.

The applicant must be a citizen of the United States, a graduate of a recognized dental school, in good standing in his profession, between the ages of 22-6/12 and 31-9/12 years at the time of examination, and must have been engaged in the practice of his profession for 1-11/12 years subsequent to graduation.

There is at present one vacancy in prospect in the Army Dental Corps. In addition to this, it is expected that vacancies occurring before June 30, 1931, will be filled from successful candidates in this examination. Six vacancies occurred last year in the Army Dental Corps, one the year before. The average for the last five years has been three vacancies per year.

For the Surgeon General:

J. R. Bernheim,
Colonel, Dental Corps,
Assistant.

THE TEXAS STATE DENTAL SOCIETY will hold its fifteenth annual convention at Fort Worth, Texas, May 20-23, 1930.

A cordial invitation to attend is extended to all dentists who are members of the American Dental Association.

For information relative to exhibits write to Dr. W. H. Nugent, Chairman, 713 Medical Arts Bldg., Fort Worth, Texas.

George H. Mengel, *President*,
El Paso, Texas.

J. G. Fife, *Sec'y.-Treas.*,
Dallas, Texas.

THE IOWA STATE BOARD OF DENTAL EXAMINERS will meet at the State University of Iowa College of Dentistry, Iowa City, Iowa, May 26-29, 1930, at 9:00 a. m., for the purpose of examining applicants for license to practice dentistry in Iowa. An examination for dental hygienists will be given also.

For further information and application blanks, address the State Department of Health, Capitol Building, Des Moines, Iowa. All papers and credentials must be fi'ed with the Department at least fifteen days prior to date of examination.

THE NEVADA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting in Room 8, Masonic Temple Building, Reno, Nevada, beginning promptly at 9:00 a. m., June 2, 1930.

All applications and complete credentials, together with fee, must be in the hands of the Secretary at least twenty days prior to the examination.

G. C. Steinmiller, D.D.S., *Secretary*,
P. O. Box 274, Reno, Nevada.

EXAMINATION FOR APPOINTMENT TO DENTAL CORPS OF U. S. NAVY

A competitive examination for appointment to the Dental Corps of the United States Navy will begin June 9, 1930, at the U. S. Navy Medical School, Washington, D. C. Candidates must be citizens of the United States, between twenty-one and thirty-two years of age at the time of appointment, and graduates of recognized dental schools. The examination will be both theoretical and clinical, and the usual duration is about seven days. A circular containing full information relative to the Dental Corps and the prescribed form of application may be obtained from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. No allowance is made for the expense of applicants appearing for examination.

C. E. Riggs,
Surgeon-General, U. S. Navy.

THE NORTHEASTERN MASSACHUSETTS DENTAL SOCIETY will hold its annual convention at the New Ocean House, Swampscott, Mass., June 9-11, 1930.

For information, communicate with

Henry I. Yale, D.M.D., *Secretary*
Peabody, Mass.

THE VIRGINIA STATE BOARD OF DENTAL EXAMINERS will hold its regular meeting at the Medical College of Virginia, Richmond, Va., at 9:00 A. M., June 10, 1930.

Applicants are required to present a certificate from the State Board of Education showing that they have had one year of academic education equal to one year of college work.

Applications, with fee and photograph, must be filed ten days before the date of examination. For application blanks and other information, apply to

John M. Hughes, D.D.S., *Secretary*,
715 Medical Arts Bldg., Richmond, Va.

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination for registration for both dentists and oral

hygienists in the City of Boston, Mass., June 10-14, 1930.

Full information, application blanks, etc., may be secured at the office of the Secretary, Room 146, State House, Boston. All applications must be filed at the office of the Secretary at least ten days before date set for examination.

W. HENRY GRANT, D.M.D., *Secretary.*

THE GEORGIA DENTAL HYGIENISTS ASSOCIATION will hold its annual meeting at the Ansley Hotel, Atlanta, Ga., June 11, 1930. A very interesting program is being prepared, including papers by Sherman L. Davis, Ph.D., of Indianapolis, Ind., and C. J. Hollister, D.D.S., of Harrisburg, Pa.

A cordial invitation to attend is extended to members of the dental profession, dental assistants and dental hygienists.

ADDIBEL FORRESTER, *Secretary*
803 Atlanta Nat. Bank Bldg.,
Atlanta, Ga.

THE MINNESOTA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at the College of Dentistry, University of Minnesota, Minneapolis, Minn., on June 12, 1930. Applications should be in the office of the Secretary by June 1st.

W. H. SMITH, D.D.S., *Secretary,*
601 Donaldson Bldg., Minneapolis, Minn.

THE INDIANA STATE BOARD OF DENTAL EXAMINERS will hold its annual meeting in the House of Representatives Room, State House, Indianapolis, Ind., June 12-16, 1930, for the purpose of examining all applicants with proper credentials. Applications should be in the hands of the Secretary one week before the beginning of the meeting.

For applications, clinical requirements and other information, address

J. M. HALE, *Sec'y-Treas.*
Mount Vernon, Ind.

THE TEXAS STATE BOARD OF DENTAL EXAMINERS will hold its next regular meeting at the Texas Dental College, Houston, Texas, on June 16, 1930, promptly at 8:00 A. M., for the purpose of examining applicants for the practice of dentistry in Texas. Applications with photograph and fee must be in the hands of the secretary by June first.

For further information and application blanks, communicate with

MAXWELL C. MURPHY, D.D.S., *Secretary*
King's Daughters' Hospital, Temple, Texas.

THE DELAWARE STATE BOARD OF DENTAL EXAMINERS will hold its next meeting in the Municipal Building, Tenth and King Streets, Wilmington, Del., June 18-19, 1930, from 9:00 A. M. to 5:00 P. M.

For further information, address

W. S. P. COMBS, *Secretary,*
Middletown, Del.

THE MAINE DENTAL SOCIETY will hold its annual convention at the Poland Spring House, South Poland, Maine, June 19-21, 1930. For further information, communicate with

W. D. TAYLOR, D.M.D., *Secretary*
Mechanic Falls, Maine.

THE ARKANSAS STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at the LaFayette Hotel, Little Rock, Ark., on June 23, 1930, at 8:00 a. m., for the purpose of examining all applicants possessing the proper credentials.

Applications should be in the hands of the Secretary at least one week before the date of meeting. For application blanks, clinical requirements, etc., address

FLOYD P. TRAVIS, D.D.S., *Secretary*
Osceola, Ark.

THE CONNECTICUT DENTAL COMMISSION will meet at Hartford, Conn., June 25-28, 1930, for the examination of applicants for license to practice dentistry and dental hygiene, and to transact any other business proper to come before it.

Applications should be in the hands of the Recorder at least two full weeks before the meeting. For application blanks and other information, apply to

ALMOND J. CUTTING, *Recorder,*
Southington, Conn.

THE NORTH DAKOTA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at Fargo, N. D., July 8-11, 1930. Applications for examination must be in the hands of the secretary by July 1st.

GILBERT MOSKAU, D.D.S., *Secretary*
Grand Forks, N. D.

THE ARIZONA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at Phoenix, Ariz., July 14-19, 1930. Applications must be in the hands of the Secretary not later than June 30th.

For further information, communicate with

WM. J. JOHNSON, D.D.S., *Secretary*
1105 Luhrs Tower Bldg.
Phoenix, Ariz.

THE NEW MEXICO BOARD OF DENTAL EXAMINERS will hold its next meeting at Albuquerque, N. M., July 16-18, 1930, for the purpose of examining applicants for the practice of dentistry.

Application, together with fee and photograph, should be in the hands of the Secretary by July first. For further information, address

J. J. CLARK, D.D.S., *Secretary*
Artesia, N. M.

THE AMERICAN ACADEMY OF PERIODONTOLOGY will hold its seventeenth annual meeting at the Acacia Hotel, Colorado Springs, Colo., July 17-19, 1930.

CLYDE C. SHERWOOD, D.D.S., *President*
Toledo, Ohio.
C. H. GRACEY, D.D.S., *Secretary*
269 Rowena St., Detroit, Mich.

THE SECOND INTERNATIONAL ORTHODONTIC CONGRESS will be held in London, England, about the middle of July, 1931. The object of the Congress is the advancement of the science of orthodontics and its practical application.

It is hoped that orthodontists and dental practitioners from all parts of the world will attend.

Information regarding traveling facilities and hotel accommodations may be obtained from the official agents of the Congress: Messrs. Morgan Pope & Co., 7 St. James's St., London, England; 6 Rue Caumartin, Paris, France; and 71 Vanderbilt Ave., New York; also, Messrs. Noel Vester & Co. (Agents), 44 Unter den Linden, Berlin, Germany.

J. H. BABCOCK, *President-General,*
A. C. LOCKETT,
B. MAXWELL STEPHENS,
Secretaries-General.

THE AMERICAN ACADEMY OF PERIODONTOLOGY will hold its seventeenth annual meeting at the Antlers Hotel, Colorado Springs, Colorado, July 17-19, 1930.

CLYDE C. SHERWOOD, *President*
1304 Second Natl. Bank Bldg.,
Toledo, Ohio.
C. H. GRACEY, *Secretary-Treasurer*
269 Rowena Street, Detroit, Mich.

THE AMERICAN DENTAL ASSISTANTS ASSOCIATION will hold its sixth annual meeting in Denver, Colorado, July 21-25, 1930.

RUTH F. ROGERS, *General Secretary*
Room 803, 223 West Jackson Blvd.
Chicago, Ill.

THE AMERICAN DENTAL HYGIENISTS ASSOCIATION will hold its seventh annual meeting in Denver, Colorado, July 21-25, 1930.

AGNES G. MORRIS, *Secretary,*
886 Main Street,
Bridgeport, Conn.

The position of DENTAL INTERN at the LENOX HILL HOSPITAL, New York, will be vacant September 1, 1930. The term of service is one year, with full maintenance. Apply in writing, not later than April 15, 1930, to

GEORGE F. SAUER, *Superintendent,*
112 East 77th St., New York, N. Y.